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PAROXYSMAL TACHYCARDIA IN A CHILD AGED $2\frac{3}{4}$ YEARS.*

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W. M—, aged $2\frac{3}{4}$ years, was admitted to the London Hospital on June the 6th, 1913, under the care of Dr. Robert Hutchison.

History.—Ten days before admission the child was drowsy and fretful during the afternoon. In the evening he complained that he had fallen down. No sign of injury was found, but the parents then noticed a throbbing in his neck. He vomited four or five times during that evening and looked exhausted. After a night's sound sleep he seemed brighter, though the throbbing persisted. He complained while climbing some steps that his chest hurt him. At night he seemed very tired, and the parents noticed that the heart was beating very rapidly. During the next six days he was kept in bed by the doctor's orders. He was cross, seemed half conscious at times, and did not get proper sleep. The throbbing in the neck and chest continued. On the seventh day of the illness the face became

* A paper read before the Medical Section of the Royal Society of Medicine on February the 24th, 1914.

swollen, especially around the eyes ; this continued until admission. He never appeared blue, and no swelling of the legs was noticed. On the ninth day of the illness he passed scarcely any urine. He was only half conscious, and seemed "like a dying child." On the tenth day of the illness he was sent to hospital with a suggested diagnosis of meningitis.

Previous health.—The parents, who are healthy, were married in 1909. The patient was born on August the 29th, 1910, and was breast-fed for ten months. He had been perfectly well until the present illness. He had not suffered from any infective disease except an occasional cold, nor from any aural or nasal discharge. A second child was born in 1912 and is healthy. There were no miscarriages.

Condition on admission.—The child was well built and nourished. He seemed content, and lay flat without distress. The face was puffy, especially around the eyes. Acute nephritis was first suggested, but the scanty urine, examined twice, contained no albumin. The heart was very rapid, "more than 160 per minute by auscultation." There was marked and rapid pulsation in the neck. The heart-sounds were of a tick-tack character and unaccompanied by murmurs. The respirations were 30 per minute; there was no objective shortness of breath. The liver extended three fingers' breadth below the right costal margin, and it pulsated. The patient slept well and his physical condition remained the same, except that pitting of the ankles was noticed for the first time on the eleventh day of the illness.

Only a few ounces of urine were passed.

On the twelfth day of the illness, the third after admission, the pulse was found to be 80 per minute and the heart-sounds normal. The liver was only one finger's breadth below the costal margin, and the œdema had disappeared. About 30 oz. of urine were passed during the next twenty-four hours.

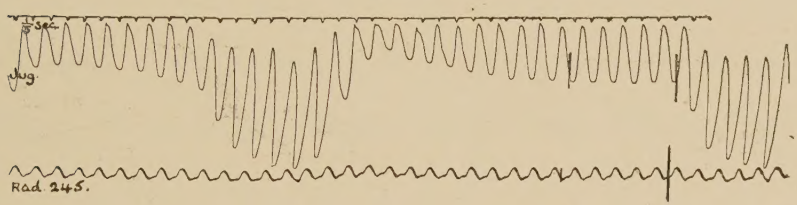
Second attack.—On the morning of June the 11th, three days after cessation of the first attack, the child was allowed to sit up in bed. Shortly afterwards it was noticed that the pulse had again become very rapid. The liver extended 1 in. below the costal margin and pulsated. The first polygraphic record was taken four hours later and showed a regular radial pulse of 245 per minute. The jugular tracing showed a single large wave at the same rate (Fig. 1).

An electro-cardiogram presented the same appearances as that in subsequent attacks. Five hours after the beginning of the attack the child seemed comfortable and happy. There was neither

cyanosis or œdema. Rapid pulsation was visible in the neck and in the third and fourth left intercostal spaces over the heart. The apex-beat was in the fourth space, $3\frac{1}{2}$ in. from the middle line. The area of cardiac dulness extended above to the third rib, to the right $\frac{1}{2}$ in., and to the left $3\frac{1}{2}$ in. from the middle line. The heart-sounds were accompanied by murmurs. The respirations were twenty per minute and deeper than before the attack. There were no abnormal signs in the lungs. The liver extended 1 in. below the right costal margin. The spleen was not felt. There was neither œdema nor ascites. Twelve hours after the onset the physical signs were the same.

A photographic tracing showed a pulse-rate of 236 per minute. The child slept well, and the pulse was still uncountable at the wrist before breakfast on the next morning. During breakfast the child

FIG. 1.



vomited, and it was then found that the pulse was 95 per minute. A few minutes later a polygraphic tracing showed a pulse-rate of 84 and a normal sinus arrhythmia.

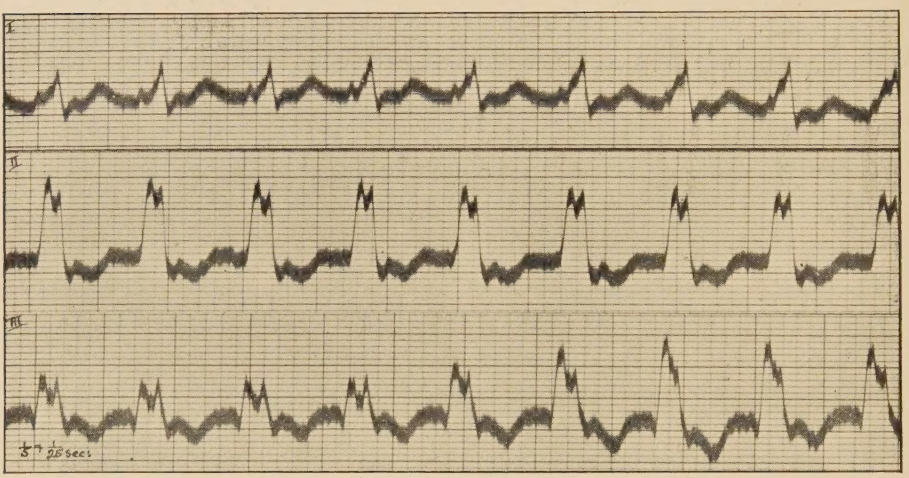
An electro-cardiogram taken in the morning showed a sinus arrhythmia with "escape of the ventricle." The duration of the second attack was twenty hours. During the next ten days the child was perfectly well. The pulse-rate was 64 to 80 per minute, and tracings showed merely a sinus arrhythmia. The systolic blood-pressure was 100 to 110 mm. Hg. (Riva-Rocci sphygmomanometer). The respirations were 20 per minute. There were no abnormal physical signs in the heart. The apex-beat now measured 3 in., instead of $3\frac{1}{2}$ in., from the middle line. The liver was just palpable.

On June the 26th, 1913, the patient was discharged, and he remained quite well until September the 22nd, 1913.

Third attack.—On September the 22nd, 1913, the third attack began. Again the parents noticed throbbing in the neck. The child said he felt sick. Radial pulse tracings showed a rate of 215 per minute. Electro-cardiograms were of the same character as

those taken during previous attacks (Fig. 2). During the night the child vomited, but this did not terminate the attack. At 8 a.m. on September the 23rd the radial pulse was found to be 118 and at 11 a.m. was 105. An electro-cardiogram showed the normal rhythm. The third attack had lasted about twelve hours. The physical signs were the same as those during the attack. The Wassermann reaction in the blood-serum, made on September the 30th, was negative. The child was discharged, and remained well until October the 3rd, 1913.

Fig. 2.



Fourth attack.—On October the 3rd, he was again admitted, four hours after the onset of the attack. The pulse-rate was 213, the blood-pressure 85 to 90 mm. Hg. The child appeared cheerful, and no abnormal signs were seen beyond the rapid pulsation in the neck and præcordia. The liver was not enlarged. On October the 4th, the pulse-rate was 212 per minute, and the liver was $1\frac{1}{4}$ in. below the costal margin. On October the 5th the pulse-rate was 227 at noon. There were no symptoms of distress. In the evening, immediately after defæcation, the attack ceased, and the pulse was found to be 120 per minute. The fourth attack had lasted forty-eight hours. Three hours later the pulse-rate was 100, sinus arrhythmia was well marked, and a continuous tracing for ten minutes showed no premature contractions or other abnormal rhythm. The liver was just palpable. For another week the child remained in

hospital. The pulse-rate was 70 to 80 per minute. He was discharged well on October the 12th, 1913.

There had been no more attacks when he was last seen on February the 21st, 1914, and he appeared quite well.

Remarks.

This case of paroxysmal tachycardia appears to be the youngest yet recorded. The œdema of the face which appeared during the long paroxysm produced a superficial resemblance to acute nephritis. In cases where no cause is found for an acute heart failure in young children the possibility of paroxysmal tachycardia should be borne in mind.

The prominent pulsation in the neck, often described as carotid, is probably always venous. The large waves shown in the tracing from the neck are too high to be due to carotid pulsation, when the radial beats accompanying them are so small. Moreover, the waves in question do not coincide with the expected position of the carotid (*c*) wave. They are due to contraction of the auricle during ventricular systole, and a consequent retropulsion of blood into the jugular veins.

The electro-cardiogram is difficult to understand, and no interpretation is put forward. It is obvious that the rhythm of the heart is entirely altered in character during an attack; the change is not merely one of rate. Premature contractions were never seen in this patient during the frequent observations and tracings. Pulsus alternans was never recorded.

Other Recorded Cases.

Paroxysmal tachycardia dates from childhood in a certain proportion of cases. Accounts of actual attacks in childhood are rare.

Herringham's case (3) was a girl, aged 11 years, who showed seven attacks within ten months. They had been present since the age of five. The duration of the paroxysms varied from one and a half to thirteen days. The rate was 200 to 250. Distress was slight. The liver enlarged and once pulsated. The urine was scanty. Œdema never occurred.

Buckland's case (1) was also a girl, aged 11 years, with a similar history of onset about the age of five. The longest attack lasted five days.

Merklen (5) describes paroxysms in a girl, aged 13 years, lasting

eight days, two days, and twelve hours. On the fifth day of the longest attack the liver was enlarged and hæmorrhagic sputum was expectorated. The pulse-rate was 220.

John Hay (2) records a case in a delicate boy, aged 6 years. The onset and offset were not observed, but it is an undoubted case of paroxysmal tachycardia, and excellent polygraphic records are given.

Hume (4) has described attacks in a girl, aged 6 years, during the course of a severe attack of diphtheria.

On the forty-first and on the fifty-first days of the illness, while the child was vomiting and in a grave, collapsed condition, polygraphic records showed the occurrence of short paroxysms of tachycardia. These did not return, and the patient recovered and left the hospital eleven weeks later.

References.

(1) Buckland, F. O.—'Trans. Clin. Soc. Lond.,' 1892, xxv, p. 92.
(2) Hay, John.—'Edin. Med. Journ.,' 1907, xxi, p. 40.
(3) Herringham, W. P.—'Trans. Clin. Soc. Lond.,' 1907, xxx, p. 99.
(4) Hume, W. E.—'Heart,' Lond., 1913, v, p. 25.
(5) Merklen, T.—'Semaine Méd.,' Paris, 1901, xxi, p. 164.

THE FOOD VALUE REQUIRED BY GROWING GIRLS, AGED FOUR TO FIFTEEN. RESULT OF INVESTIGATIONS CARRIED ON FOR SEVENTEEN YEARS, WITH ANALYSES AND COMMENTS.

By J. Gordon Sharp, M.D.Edin.

(*Continued from p.* 214.)

Weight and Height of Children under Care of Writer.

Comparison with British, Jewish, and Quetelet's Tables.

In preparing the following tables the writer has set down (1) the average height and weight observed in the large number of girls from time to time under his care from ages seven to fifteen. (2) The highest figures met with at the same ages. (3) The lowest figures met with among the numbers examined. These are compared with the British Association, Belgian (Quetelet's), and the Jewish averages at the same ages. For the Jewish figures the writer is

indebted to the writings of Mr. William Hall, M.R.C.S., of Leeds, who has examined many thousands of children of both Jewish and English nationality.

The Jewish figures are by no means accidental, for they are taken from several thousands of cases. The writer's cases are likewise not unique for they are being confirmed by school officers. It will be remarked how much the Jewish children exceed in weight and height the English child. The question then is: Do these figures portend evil to the English child? The answer is in the negative. Although there can be no doubt that many children are underfed, a large number of children who get as much food as they can deal with are under weight and height according to the abnormally high standard, and yet they are able to resist death and disease, and are able to reach adult life, do laborious work, and finally live to attain the allotted span of life.

One hears to-day many deprecatory remarks concerning the weight and stature of the English child, and it must be admitted if the standard of the British Association be accepted there is ground for concern, but the writer has never yet in any north of England community, town or country, met with children who came up to this standard, and he has some difficulty in understanding how the standard came to be instituted. The only children who do come up to it, or near to it, are the Jewish children. In the writer's experience, the *Belgian tables* of Quetelet more nearly approach the working-class average of the north of England.

Age 7.

Weight.

Average in stones and pounds	3·1½	= 43½ lb. = 19·74 kgrm.
Highest ,, ,, ,,	3·11	
Lowest ,, ,, ,,	2·7½	
British average ,, ,,	3.5½	or 4 lb. above writer's.
Quetelet's ,, ,, ,,	2·11	or 4½ lb. below ,,
Jewish ,, ,, ,,	3·7	or 5½ lb. above ,,

Height.

Average in feet and inches	3·8½	= 44½ in. = 1130 mm.
Highest ,, ,, ,,	4·1	
Lowest ,, ,, ,,	2·7½	
British average ,, ,,	3·8½	or same as writer's.
Quetelet's ,, ,, ,,	3·6	or 2½ in. below writer's.
Jewish ,, ,, ,,	3·9	or 1 in. above ,,

Age 8.

Weight.

Average in stones and pounds			3·1	= 43 lb. = 19·50 kgrm.
Highest	,,	,,	,,	3·13
Lowest	,,	,,	,,	2·10
British average	,,	,,		3·10 or 9 lb. above writer's.
Quetelet's	,,	,,	,,	2·13 or 2 lb. below ,,
Jewish	,,	,,	,,	3·11½ or 10½ lb. above ,,

Height.

Average in feet and inches			3·9½	= 45½ in. = 1155 mm.
Highest	,,	,,	,,	4·3½
Lowest	,,	,,	,,	3·5½
British average	,,	,,		3·10½ or 1 in. above writer's.
Quetelet's	,,	,,	,,	3·9 or ½ in. below ,,
Jewish	,,	,,	,,	3·11 or 1½ in. above ,,

Age 9.

Weight.

Average in stones and pounds			3·9½	= 51½ lb. = 23·35 kgrm.
Highest	,,	,,	,,	4·5
Lowest	,,	,,	,,	2·13
British average	,,	,,		3·13½ or 4½ lb. above writer's.
Quetelet's	,,	,,	,,	3·4 or 5½ lb. below ,,
Jewish	,,	,,	,,	4·3 or 7½ lb. above ,,

Height.

Average in feet and inches			3·11	= 47 in. = 1193 mm.
Highest	,,	,,	,,	4·2
Lowest	,,	,,	,,	3·7½
British average	,,	,,		4·0¾ or 3¾ in. above writer's.
Quetelet's	,,	,,	,,	3·11 equal to writer's.
Jewish	,,	,,	,,	4·1½ or 4½ in above writer's.

Age 10.

Weight.

Average in stones and pounds			3·11	= 53 lb. = 24·00 kgrm.
Highest	,,	,,	,,	4·6½
Lowest	,,	,,	,,	3·1½
British average	,,	,,		4·6 or 7 lb. above writer's.
Quetelet's	,,	,,	,,	3·8 or 3 lb. below ,,
Jewish	,,	,,	,,	4·8 or 12 lb. above ,,

Height.

Average in feet and inches			4·1½	= 49½ in. = 1257 mm.
Highest	„	„	4·6	
Lowest	„	„	3·8½	
British average	„	„	4·3	or 1½ in. above writer's.
Quetelet's	„	„	4·1	or ½ in. below „
Jewish	„	„	4·4½	or 3 in. above „

Age 11.

Weight.

Average in stones and pounds			4·2	= 58 lb. = 26·30 kgrm.
Highest	„	„	5·5½	
Lowest	„	„	3·8	
British average	„	„	4·12	or 10 lb. above writer's.
Quetelet's	„	„	4·0	or 2 lb. below „
Jewish	„	„	4·11	or 9 lb. above „

Height.

Average in feet and inches			4·3½	= 51½ in. = 1301 mm.
Highest	„	„	4·9	
Lowest	„	„	3·11	
British average	„	„	4·5	or 1½ in. above writer's.
Quetelet's	„	„	4·2	or 1½ in. below „
Jewish	„	„	4·4½	or 1 in. above „

Age 12.

Weight.

Average in stones and pounds			4·5	= 61 lb. = 27·66 kgrm.
Highest	„	„	5·12	
Lowest	„	„	3·1½	
British average	„	„	5·6½	or 15½ lb. above writer's.
Quetelet's	„	„	4·7	or 2 lb. „ „
Jewish	„	„	5·6	or 15 lb. „ „

Height.

Average in feet and inches			4·3	= 51 in. = 1275 mm.
Highest	„	„	4·8½	
Lowest	„	„	3·7½	
British average	„	„	4·7½	or 4½ in. above writer's.
Quetelet's	„	„	4·4	or 1 in. „ „
Jewish	„	„	4·7	or 4 in. „ „

Age 13.

Weight.

Average in stones and pounds			4·12¾	= 60¾ lb. = 31·18 kgrm.
Highest	„	„	„	7·1
Lowest	„	„	„	3·5
British average	„	„	6·3	or 18¼ lb. above writer's.
Quetelet's	„	„	„	5·1 or 2¼ lb. „ „

Height.

Average in feet and inches			4·5	= 53 in. = 1346 mm.
Highest	„	„	„	4·11
Lowest	„	„	„	3·9
British average	„	„	4·9¾	or 4¾ in. above writer's.
Quetelet's	„	„	„	4·7 or 2 in. „ „

The Jewish figures are not available after twelve years of age, but it will be observed that the high averages of these children are being gradually lowered as one approaches the twelfth year, when they more nearly equal the high British average.

Age 14.

Weight.

Average in stones and pounds			5·9¾	= 79¾ lb. = 36·17 kgrm.
Highest	„	„	„	7·12
Lowest	„	„	„	3·9
British average	„	„	6·12¾	or 17 lb. above writer's.
Quetelet's	„	„	„	5·9 or ¾ lb. below „

Height.

Average in feet and inches			4·6½	= 54½ in. = 1384 mm.
Highest	„	„	„	5·1½
Lowest	„	„	„	4·0
British average	„	„	4·11¾	or 5¼ in. above writer's.
Quetelet's	„	„	„	4·10 or 3½ in. „ „

Age 15.

Weight.

Average in stones and pounds			6·3½	= 91 lb. = 39·80 kgrm.
Highest	„	„	„	8·0
Lowest	„	„	„	4·4
British average	„	„	7·8¼	or 16¾ lb. above writer's.
Quetelet's	„	„	„	6·4 or ½ lb. „ „

Height.

Average in feet and inches			4·9	= 57 in. = 1448 mm.
Highest	„	„	5·3	
Lowest	„	„	4·2	
British average	„	„	5·1	or 6 in. above writer's.
Quetelet's	„	„	4·10	or 1 in. „ „

Attention may be called to the fact of the gradual lowering of the averages of both weight and height as the children advance in years. In the early years the children under the writer's care did not compare so unfavourably with either the British or Quetelet's tables, but later on the comparisons were most unfavourable, showing the great advantage which the well-fed, well-cared-for infant and young child possess over the neglected child, and it would appear as if the loss sustained in these very tender years can never be quite made up, even under the best future conditions of life.

Advantages of the dietary with its therapeutic significance.—The protein content, which is comparatively large, depends chiefly on the meat, wheaten flour, beans, peas, and milk and oatmeal. But important as these may be, the vegetables are almost as important from another side, namely because of their organic-phosphorus content or lipoid bodies. Without the presence of a due proportion of these in the best of dietaries the proteins, fats and carbohydrates could not be used to the best advantage in building up the tissues. Their presence is probably to stimulate or to set into activity the ferments of the glands of the organism so that it can deal with the food-stuffs supplied to it. Herein may lie the secret of the health of one child and the ill-health of another child.

Previous to the adoption of the dietary now under review the fat value for each child was less by half an ounce daily (15 grm.) and this was considered too low, for in the winter-time cases of chilblains were often met with. Since the addition of the extra half ounce of margarine cases of this troublesome affection are rare even in the severest weather. During a recent medical examination by a Government inspector in the middle of a spell of cold wintry weather lasting some weeks, only one child was found to be suffering from a milk attack of unbroken chilblains. This experience points to the importance of fat in the diet of the young growing child.

ACUTE *BACILLUS COLI* INFECTION OF THE URINARY TRACT IN CHILDREN. FIVE TYPES OF CLINICAL MANIFESTATIONS.

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It is a well-recognised fact that the symptoms of acute *coli*-uria in children are by no means always associated with the urinary tract, and that the manifestations may be extremely misleading, pointing, as they often do, to some disturbance totally unconnected with the real seat of disease. Thus, out of 60 cases described by Jeffreys,(1) 37 were brought to hospital for bladder trouble, 3 for diarrhœa and vomiting, 9 for abdominal pain, 5 for meningeal symptoms, 4 for debility, while 2 had no symptoms.

Examination of a series of cases treated at Paddington Green Children's Hospital, and also of those published in the recent literature on the subject, showed that they could be arranged in five groups according as they presented :

(1) Symptoms of general feverish disorders, without any indication that one special system was affected.

(2) Cerebral symptoms.

(3) Pulmonary symptoms.

(4) Abdominal symptoms.

(5) Urinary symptoms.

As might be expected the largest group is No. 5, in which urinary symptoms are complained of ; as a matter of fact, in the great majority of cases a very careful inquiry generally leads to a history of some trouble connected with the urinary system, though this may only be a peculiar smell of the water, or some brownish staining of the napkins. Unless the possibility of the existence of *coli*-uria is present in the mind of the physician, such minor signs may easily be missed.

(1) The first group includes those cases in which there are only general symptoms, though these may frequently be present in the other groups, along with the symptoms pointing to a special system.

Such symptoms occur somewhat as follows : A sudden onset of the illness associated with rigors, which Thomson (2) thinks is characteristic of an ascending infection as it is exceedingly rare in boys, and, indeed, except in the case of *coli*-uria, rare in children altogether, or with convulsions, or blueness and collapse. After the onset the

temperature rises quickly to 105° or 106° F., and if untreated will continue to swing with large variations, often falling or rising 6°—8° in a few hours.

Sometimes the chart simulates that of typhoid or even malaria, with regular intermissions, but it is noticeable that the child is not so ill as the severe fever would seem to indicate, and directly the temperature falls the child is ready to play. The pulse and respirations are usually quickened with the rise of temperature, but are not excessively rapid. The child is pale and drawn, though there may be a flush during pyrexial periods; he is irritable and restless, and he may have marked muscular tenderness. There may be no physical signs, and so nothing to draw attention to the urine.

The following case illustrates this type:

M. D—, girl, aged 5 years and 4 months. Sent to hospital for diagnosis. Six weeks previous to admission she had had slight pain and inflammation of the throat, adenoids having been recently removed. The temperature went up to 105° F. and had continued swinging ever since. Three days after the onset there was severe pain in the back lasting twelve hours. The bowels have been confined, the appetite very poor, and the child irritable and difficult to manage, requiring much coaxing.

On admission the child looked pale and ill, but nothing was found on examination until the urine was tested; this was acid, contained epithelial and pus-cells, and on cultivation yielded a pure culture of *Bacillus coli*.

After treatment with alkalies for two weeks the child was discharged without symptoms, though pus was still present in the urine.

(2) Cerebral Cases.

These often simulate intra-cranial disease, especially meningitis, and suffer from delirium, or may be somnolent or even comatose when they come under observation. The onset is often marked by convulsions, and there may be neck rigidity, strabismus, and, in rare instances, Kernig's sign. The extreme irritability and screaming attacks which are often present lend additional weight to the diagnosis of meningitis.

By far the best example of such a case was published by McCrae,(3) who has kindly permitted me to quote it.

Girl, aged 7½ months. Tended to be constipated but otherwise healthy and well nourished.

She was suddenly taken ill one evening, the temperature rising to 104° F. The next morning she was unconscious, the body extended and rigid. This latter condition lasted an hour and she was semi-conscious till the afternoon, when she had right-sided convulsions lasting three hours, with deviation of the eyes to the right. She was given pot. brom., gr. v, and chloral, gr. v, *per rectum*, and chloroform was administered for one hour, after which she slept for six hours. On waking the temperature was 100°, and her right arm and leg were paralysed though the face was not. In the next few days the paralysis passed off. She occasionally went very pale with blue lips while asleep, but became normal again when roused. Four days later the temperature rose to 104° without apparent cause, and for three weeks she had an intermittent temperature without rigors or fits, but on five occasions she became unconscious, in the worst of which the temperature was 104°, pulse 200, respirations rapid and shallow. She was slightly rigid, and remained so for six hours, when she went to sleep. On waking she was ready to play. After some other less severe attacks the nurse noticed a brown stain on the napkins from the urine. This was examined and found to be acid, to contain albumin, pus, and *Bacillus coli*. Nothing else was present on physical examination, and she was given urotropin, gr. i, and pot. cit., gr. v, four-hourly and made a good recovery. Three and a half years later she was a healthy child, with perfect intelligence, and had never had any cerebral signs since.

(3) Pulmonary Cases.

Some cases present symptoms suggestive of the onset of pneumonia, having marked tachypnœa accompanying the high fever and malaise. As a rule respiratory distress is absent, though cases do occur in which there is some expiratory difficulty. Physical signs are absent, though a slight congestion with impairment of note and occasional *râles* may still further confuse the issue. Such cases do not, of course, follow the usual course of a pneumonia, and, what may be taken for the signs of an early consolidation, do not develop.

The following case is illustrative:

H. S—, girl, aged 11 months. Admitted complaining of cough, difficulty in breathing, and twitching of the eyes. Two days previously vomited during the night; the breathing became rapid and a cough developed.

The previous health and family history were satisfactory.

On examination, the child had all the appearance of a pneumonia,

with inverted breathing, etc., but beyond a few *râles* nothing was found in the lungs, and there was no consolidation. There were no other physical signs, but the urine was acid, contained a trace of albumin, and pus and bacilli were present. There was a leucocytosis of 14,000.

The child was given pot. cit. and ammon. acetate, and the temperature continued high, and swinging for three days, after which the child improved greatly; one attack of diarrhœa hindered progress for a time, but on the eighteenth day she was discharged well though there was still a trace of pus in the urine.

(4) Abdominal Cases.

The onset in these cases may be attended by severe colicky pains in the abdomen, ascribed by Porter and Fleischner (4) to ulceration of the ureters. There is vomiting and obstinate constipation, or in some cases diarrhœa. The appetite is lost early and in a few cases jaundice is seen. With treatment of the urinary condition, the abdominal symptoms disappear. Such a case is the following:

M. R—, girl, aged 11 months. Admitted to hospital for diarrhœa and vomiting which had been continuous for the last ten days. The child had been weaned since the commencement of the illness, and she has got progressively weaker. She has vomited about half an hour after each meal, and has been irritable and feverish. She had fits of screaming, attributed to colic.

On admission, temperature was 104° F. and pulse 140. The child was very rickety, but nothing was discovered on physical examination. The urine was acid, contained albumin, pus and bacilli, which on cultivation were found to be pure *B. coli*.

The child was put on pot. cit. and pot. acet. and in two days the temperature was down and almost all the symptoms had disappeared. She was discharged on the eleventh day well, with the urine free from pus.

(5) Urinary Cases.

In these cases, of course, the diagnosis is much more simple as attention is drawn to the affected system. There is often severe pain in the kidney region, usually the right, and the organ itself may be enlarged and palpable, while its size may vary from time to time, as in hydronephrosis. If the kidney substance is involved there may be œdema of the face, hands and feet. The bladder symptoms are usually referable to the hyperacidity of the urine, and

consist of enuresis, frequency of micturition, straining and pain during the act. Such bladder symptoms, if untreated, may die down for a day or two to reappear again with increased violence.

Such a case is the following :

F. T—, girl, aged $5\frac{1}{2}$ years. Admitted for swelling under the eyes and passing of blood in the water for fourteen days.

The child woke one morning with the eyes swollen. She was feverish and complained of thirst and slight frontal headache. The urine was highly coloured, and at times quite red. There was slight diarrhœa, but no vomiting ; the legs and abdomen were swollen.

She had suffered from kidney disease two years previously and tuberculous peritonitis when six months old.

On admission the child was found to be puffy under the eyes, and the feet and legs were swollen.

The spleen was enlarged and the abdomen was dull on the flanks, a distinct thrill being felt on palpation.

The urine was acid, blood and a little pus were present, and an organism identified as Bacillus of Gaertner.

After one month's treatment with alkalies the child was discharged with no symptoms and no œdema, though Gaertner's bacillus was still obtained on cultivation of the urine.

All these various symptoms are doubtless results of the circulation of the toxins produced by the bacilli, and it was noticeable that in most cases they disappear after treatment by alkalies, which, as Thomson Walker has pointed out, seem to neutralise these toxins, though they may not cause the bacilli to disappear from the urine. That such divergent symptoms can occur from the same cause, only emphasises the necessity of careful examination of the urine in all doubtful cases of illness in young children.

References.

(1) Jeffreys.—'Quart. Journ. Med.,' 1910–11, iv, p. 267.
(2) Thomson.—*Ibid.*, 1909–10, iii, p. 251
(3) McCrae.—'Practitioner,' 1910, ii, p. 346.
(4) Porter and Fleischner.—'Arch. of Pediat.,' 1910, xxvii, p. 826.

CONGENITAL DIFFUSE NON-INFLAMMATORY CORNEAL OPACITY IN TWO SISTERS.*

By Frank Moxon, M.B., B.S.,
Chief Clinical Assistant, Royal London Ophthalmic Hospital, Moorfields.

The two female children shown this evening are the second and third of a family of four; they are aged 8 and 5 years respectively. The elder of the two attended Moorfields for the first time when aged 2 years, and the younger when aged $3\frac{1}{2}$ years. The mother states that the condition of the eyes was noticed at birth, and that up to now there has been no marked change. Both confinements were instrumental, but otherwise normal. The elder child is said to have had a slight cold in both eyes soon after birth, but not so the younger.

Both children were breast-fed about nine months.

All four children of the family have been healthy, and, with the exception of the elder of the two with the affected eyes, who had a severe attack of gastro-enteritis when aged one, they have had no fevers or serious illnesses. The parents are both healthy. The maternal grandfather and paternal grandmother were brother and sister; no history of syphilis or tuberculosis, nor any miscarriages. There is no family history of either constitutional or eye disease.

Both children are bright and healthy looking, and I can find no evidence of constitutional disease or congenital defects in other parts. Wassermann's and von Pirquet's tests were negative in the case of both children. Their teeth are good, although the elder shows irregular hypertrophy of the enamel and some crenation of the cutting edges. They both suffer in bright lights from slight photophobia. They are not colour-blind. The fields of vision seem to be normal, although on account of the children's age they cannot be investigated with accuracy. Pupils, tension, ocular movements, bulbar and palpebral conjunctiva, lachrymal apparatus and sclera are normal. In each case the refraction shows slight compound myopic astigmatism, and the vision is $\frac{5}{60}$ with each eye separately and $\frac{6}{60}$ binocularly. The corneæ appear on direct illumination moderately opaque and milky looking. The surface corneal reflex is bright and regular. There is a fairly good fundal reflex, although the reflex

* A paper read before the Section of Ophthalmology of the Royal Society of Medicine on February the 4th, 1914.

for retinoscope purposes is ill defined. On focal illumination, aided with the corneal magnifier, the surface of the cornea is seen to be slightly pitted, but otherwise normal. The opacity is seen to be evenly distributed over the whole cornea, and to be composed of separate minute spots, which in parts tend to coalesce. These spots seem to be fairly evenly distributed throughout the thickness of the cornea. There is no keratitis punctata. There are no blood-vessels in the cornea, and the marginal vascular loops are not broken or of abnormal appearance. The anterior chambers are of normal depth, the irides are of normal colour—grey green—and the markings are clear, and show nothing of an abnormal nature. The lenses are clear, as also is the vitreous. The discs and vessels show nothing abnormal. The choroid and retina show no gross lesions, although, on account of the corneal opacity, minute details cannot be examined, it would seem from the reflex and the general pigmentation that they are quite normal.

It seems that there is some doubt as to whether there is such a thing as congenital non-inflammatory opaqueness of the cornea; I have therefore thought that the cases I have shown to-night might be of some interest. Terrien, of Paris, states that congenital opacities are of two kinds—the first associated with other ocular malformations, and the second one in which a diffuse opacity of the cornea is the only manifest alteration. He further states that he thinks the changes are the result of intra-uterine inflammation rather than due to an arrest of development. The case on which he gives a pathological report is, however, not one of the kind in which the corneæ alone are involved, as is the case with the sisters I have shown to-night. S. Crompton described a case of congenital opacity of the corneæ in two brothers, but here, again, there were other complications present, such as staphyloma and microphthalmos. He, however, referred to other cases of S. Farrar, in which, apparently, the corneæ only were affected, in three or four children of the same family. Since, however, the opacity in three of these cleared up completely within ten months, and the fourth, although it had not cleared up entirely at the end of two years, yet showed evidence of clearing by increase of vision, I think that they were probably of an inflammatory nature, and not developmental. I have looked up many other cases, including those described by G. W. Thompson, J. H. Boas, Profs. Hosch and Nettleship, but the only cases I have been able to find recorded apparently exactly like the ones I have shown are those described by Prof. Komoto, of Tokio, with this interesting addition, however—that in his cases the condition was also

hereditary; for the father, who is a medical man, aged 40 years, in addition to his two children and a nephew, all had diffuse opacities of the cornea at birth, such as I have described. The two children also had congenital cataracts, but in the case of the father and the nephew the corneal opacity was the only defect; during prolonged observation, it is said, the corneæ have shown no sign of clearing.

I have now carefully watched the two children whom I have shown to-night for two and a half years, and so far as I can tell from the appearance and the vision there is no change whatever in the opacity. If these changes are to be considered as of inflammatory origin, the fact that they have changed so little, if at all, since birth is, in my opinion, somewhat against the theory of inflammation. And when you remember that there is no sign of vascularisation, and that the Wassermann test is negative, I think that the evidence that the condition is due to some mal-development of the corneæ, *e. g.* irregular lamellation of the fibrous tissue, is, to say the least, more than feasible.

Bibliography.

Boas, J. H.—'Klin. Monatsbl. f. Augenheilk.,' Stuttg., 1883, xxi, p. 518.
Crompton, S.—'Lond. Med. Gaz.,' 1840–1, xxvii, p. 432.
Hosch.—'Archiv. f. Ophthalm.,' Leipz., 1910, lii, p. 493.
Komoto, J.—'Klin. Monatsbl. f. Augenheilk.,' 1909, xlviii, p. 445.
Terrien.—'Archives d'Ophtalm.,' Par., 1902, xxii, pp. 329–343.
Thompson, G. W.—'Trans. Ophthalm. Soc.,' 1904, xxiv, p. 66.

CASE OF CYST OF THE CÆCUM IN A CHILD, AGED 3 MONTHS, CAUSING INTESTINAL OBSTRUCTION; RESECTION OF INTESTINE; RECOVERY.*

By W. Girling Ball, F.R.C.S.,

Assistant Surgeon and Warden of College, St. Bartholomew's Hospital.

A male child, aged 3 months, was admitted to St. Bartholomew's Hospital, under my care, on June the 3rd, 1913, with a history of intestinal obstruction during the previous forty-eight hours. Mention was made of several attacks of screaming, associated with abdominal rigidity. The bowels were opened by enemata, and relief appeared to be given. The pulse-rate and temperature were normal. Next day the bowels were opened naturally, and the motions were natural in all respects. In the late afternoon it was noticed that the abdomen

* The case was reported to the Section for the Study of Disease in Children of the Royal Society of Medicine on February the 27th, 1914.

was becoming distended and several screaming attacks occurred. Then, for the first time during a period of quiet, a swelling was felt in the right illiac fossa. Nothing felt *per rectum*.

A diagnosis of intussusception causing partial intestinal obstruction was made.

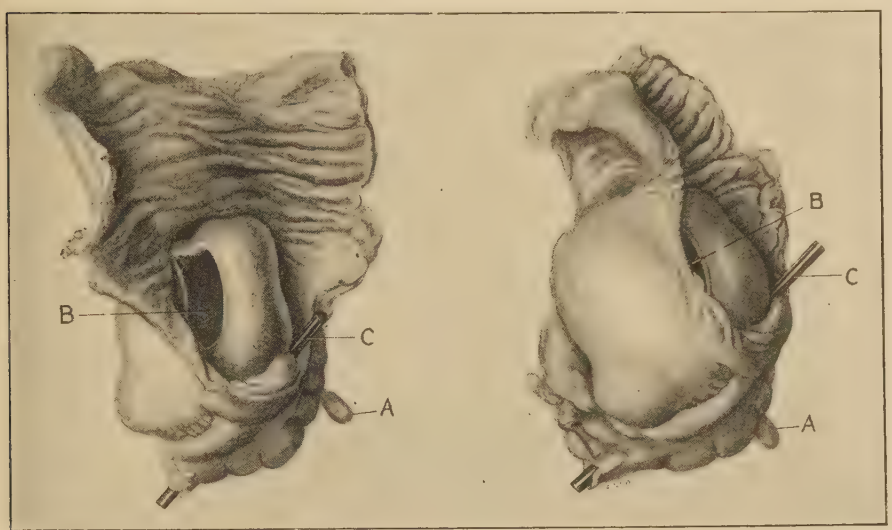
On opening the abdomen the swelling was seen to be situated in the cæcum. The appendix was lying free, and not involved in the swelling. It was still thought to be an ileo-colic intussusception, until it was found to be impossible to reduce it. The colon was then opened beyond the swelling, and it was found that it bore no relation to the ileo-cæcal valve, beyond blocking the orifice. It was a tensely distended cystic swelling attached to the outer and posterior wall of the cæcum. The hole was closed. The lower 3 in. of the ileum, the cæcum and its contained cyst, and about 2 in. of the ascending colon were excised. The open end of the colon was closed and the lower end of the ileum left open with a Paul's tube inserted, in order to relieve the marked distension of the bowel which was present. A lateral anastomosis by suture was made between the lower end of the ileum, 6 in. from its free end and the transverse colon. The abdominal wall was closed in one layer, the Paul's tube being brought out through the lower end of the wound. The drainage acted quite efficiently, and on the fourth day the bowels were opened naturally by the rectum. On the fifth day the abdominal wound gave way, and during the process of replacing the bowel which escaped, the anastomosis was torn and had to be resutured. The next day motions were passed by the rectum, and very little came through the enterostomy wound, which was still retained. At the end of three weeks, owing to the septic condition of the anterior abdominal wall from constant fæcal contamination, the marked wasting and downhill progress of the child and its failure to take food, an attempt was made to close the fæcal fistula. It remain closed for nine days, during which time the condition of the child improved, but it then broke down again. A fortnight later another attempt was made, but this also failed, as did a further attempt made in October; the leakage, however, was very much smaller.

On December the 10th an attack of acute intestinal obstruction supervened. The wound was freely opened up, and a dense band of fibrous tissue found to be tightly constricting a piece of intestine proximal to the site of the hole in the bowel. This was divided, and as far as possible the matted loops of intestine were separated from each other, the hole in the bowel carefully sutured, and the abdominal wall repaired in three layers. The original anastomosis was not seen. Since this time the child has made excellent progress, gaining

in weight, taking food well, sleeping well, and has regular action of the bowels.

Except that the child is small, weighing only 15 lb. 8 oz., measuring only 28½ in , and having only two teeth, he appears to be normal.

The specimen shows the condition found (*v.* Figure). It is a cyst in the wall of the cæcum, attached almost by a pedicle to the outer and posterior wall of the cæcum. It contained clear mucoid fluid, odourless, and not infected. The interior of the sac is not in any



A. The vermiform appendix. B. Window cut in cyst-wall. C. Glass rod passing through the ileo-cæcal valve.

way connected with the lumen of the bowel. It has no connection with the ileo-cæcal valve, but completely blocks its orifice. The appendix is natural and normally placed. The outer layer of the cyst-wall is composed of the glandular mucosa of bowel wall, lined by columnar-celled epithelium, the inner layer of flattened epithelial cells. The intervening tissue is composed of loose fibrous tissue and non-striped muscle.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, February the 27th, 1914.

The President, Dr. Leonard Guthrie, *in the Chair.*

Incurvate Little Fingers in an Afro-Aryan Child.—Dr. F. G. Crookshank.—A child, aged 3 years, the offspring of a male African negro and a female Cingalese, had been under treatment for rickets for the last fifteen months. When first seen, as now, the incurvation of both little fingers was marked.

Pre-adolescent Dyspituitarism.—Dr. Crookshank.—The patient, a boy, aged $13\frac{1}{2}$ years, weighed $10\frac{1}{2}$ st. The boy was obviously very stout, but the distribution of the fat was feminine, and the external genitals were small. There was some skeletal overgrowth, and the size of the pelvis was notable. There was some definite limitation of the temporal half of the right visual field. A skiagram of the skull showing the sella turcica was exhibited.

Extensive Cicatricial Pharyngeal Diaphragm following Scarlatina in a Boy, aged 5 years.—Mr. J. F. O'Malley.—The boy had been in a fever hospital for about three months, and on his return it was noticed that he "spoke through his nose." He could swallow solids and liquids without difficulty and there was no interference with breathing. The diaphragm appeared as a continuation downwards of the soft palate, and was formed by the union of the free edges of the two posterior pillars. It shut off the naso- from the oro-pharynx, and was complete except at the centre of its upper and lower borders. The upper opening was a small space surrounding the uvula, in which the latter was free to move. At the lower border were two openings, one on each side of a central adhesion, which passed downwards and backwards, and was attached to the posterior wall of the pharynx, opposite the level of the epiglottis.

Cyst of the Cæcum causing Intestinal Obstruction treated by Resection of Intestine followed by Recovery.—Mr. W. Girling Ball (*v.* p. 259).

Mammary Enlargement in a boy, aged $10\frac{1}{2}$ years.—Mr. L. E. Barrington-Ward.—The left breast formed a swelling the size of an orange and was tender at times. The enlargement had been noticed for six months.

(?) Kernikterus associated with Choreiform Movements.—Dr. Leonard Guthrie showed a female child, aged 1 year and 7 months, the second surviving child of nine, five of whom were jaundiced and died shortly after birth. The patient was also jaundiced at birth and remained so for six

weeks. The mental condition was very defective and the muscles generally weak and flabby. The choreiform movements were very marked and only ceased when she was asleep. Dr. Guthrie suggested that this was an example of survival from the form, usually fatal, of "icterus gravis neonatorum," described as "Kernikterus," owing to the fact that after death the basal central ganglia were found stained deeply yellow, while the rest of the brain was only slightly tinged.

Multiple Subcutaneous Cysts in the Arms.—Dr. CAUTLEY.—The child, aged 7 month, had several nodules varying in size from a millet-seed to a pea in the left arm. Two removed from the right elbow were found to contain clear fluid.

? Serous Apoplexy.—Dr. CAUTLEY.—The symptoms appeared after the patient, a boy, aged 7 years, had received a blow on the head. There were persistent headache, whining, restlessness and occasional vomiting. The abdomen was retracted and double optic neuritis was present.

Subacute Nephritis with Ascites and Uræmia. – Dr. CAUTLEY.—The patient, a boy, aged 9 years, was admitted for acute nephritis after two days' illness. There was then no blood and but little albumin in the urine, but the boy got steadily worse and in two weeks ascites was noticed, which increased to such an extent that paracentesis was called for. Uræmic fits developed, and the child seemed moribund, but under vigorous treatment with vapour baths, subcutaneous injections of pilocarpine, diuretics, and further paracentesis, recovery took place.

Congenital Hypertrophic Stenosis of the Pylorus.—Dr. CAUTLEY.—When admitted the pylorus was palpable and there was marked visible peristalsis. The stools were small brownish and contained some fæcal matter. In spite of careful treatment and feeding the child had lost ground, and it was decided that surgical treatment (pyloroplasty) should be carried out.

Case of so-called Congenital Hypertrophic Stenosis of the Pylorus.—Dr. LANGMEAD showed a well-nourished healthy-looking girl, aged 2 years, who had been treated when seven weeks old for congenital hypertrophic stenosis of the pylorus. The patient was exhibited to show the good effects which might follow medical treatment, even when a pyloric tumour had been felt.

Urticaria followed by Œdema in an Infant aged 2 months.—Dr. JAMES BURNET.—The œdema, which was very extensive, involving the trunk and both arms and legs, appeared five days after the urticaria. There was no heart or kidney trouble. It was suggested that the condition was one of angio-neurotic œdema.

Pathologic Condition of Hip.—Mr. E. G. GAUNTLETT showed a boy, aged 9 years, who had not been noticed to limp but had complained of pain over the front of the left thigh for nine months. Flexion and extension of the hip were free, but abduction, adduction and rotation were limited. A skiagram showed marked erosion of the epiphysis, without any rarefaction of the neck. Suggestions as to diagnosis and treatment were asked for.

MEDICAL SECTION.

February the 24th, 1914.

Paroxysmal Tachycardia in a Child aged $2\frac{3}{4}$ years.—Dr. R. Hutchinson and Dr. J. Parkinson (*v.* p. 241).

Paroxysmal Tachycardia in a Boy, aged $4\frac{1}{2}$ years. — Dr. Percy Kidd.—The boy was admitted to hospital on March the 13th, 1905, for vomiting, which had occurred frequently for some time. Since he had had measles at the age of 2, he had been liable to a fit in which he went stiff and turned rather blue, but lay still and did not twitch or scream. The fits lasted a few minutes, and recurred about once a month. In June, 1903, he had a bad attack of vomiting, which lasted ten days. In 1904 he was admitted to hospital with a pulse of 240 after an attack of vomiting which lasted five days.

The heart was dilated and the liver enlarged. The pulse fell to 96 in a few days, and he was discharged nearly well in three weeks.

Condition on admission: Healthy, well-developed boy, with clear complexion. Pulse, 150; respirations, 30; apex-beat in fifth space just within left nipple line; cardiac dulness began above at the third rib on the left side, and to the right reached almost to the right nipple line. The heart-sounds were clear in all areas, and no murmurs were audible. The liver extended down to 1 in. of the umbilicus. The lungs were clear. The pulse varied from 240 to 80, though seldom below 120, except for a few hours—at the most for twelve hours on one or two occasions. The fall of the pulse-rate sometimes followed vomiting, which occurred very often.

Tincture of digitalis alone and the combined tinctures of digitalis and strophanthus and convallaria were given. An ice-bag was frequently applied to the precordia. As a rule the pulse-rate was unaffected by this treatment, but occasionally a temporary fall was observed. Almost invariably the boy looked well, his colour was healthy, and his spirits good. The blood contained 5,000,000 red corpuscles per c.mm., and the hæmoglobin content was 50 per cent. Six months after admission slight anasarca developed, the liver became more enlarged, and purpuric spots appeared on the legs. The condition of the heart remained unchanged. On September the 25th there was a sudden attack of dyspnœa and cyanosis with rapidly developed œdema, which terminated fatally the same day. Necropsy: Heart 6 oz., greatly dilated in all its chambers, especially the right ventricle. Right ventricle and, to a less extent, both auricles, slightly hypertrophied. Valves normal.

Philadelphia Pediatric Society.

March the 10th, 1914, W. N. Bradley, M.D., President.

Chondrodystrophia Fœtalis.—Dr. J. K. Young showed two interesting cases. The first was a boy, aged 3 years, presenting typical symptoms of a large body with short extremities as commonly seen in this affection. All

extremities were markedly curved, the epiphyses were greatly enlarged, and the child could not sit up or walk. The second case was a baby, aged 14 weeks, which presented at birth the long body and short extremities. The extremities were greatly deformed and there were twelve fractures, some united and some ununited. The parents of both children were Russians. There was a history of malnutrition. The cause of the condition was not known. The second case had already been shown before the Society by Dr. Lowenburg in December, 1913.

Congenital Heart Disease.—Dr. Alice Wold Tallant showed a baby born three weeks before at the Maternity of the Women's Medical College of Pennsylvania. He is the ninth child of a German woman aged 41 years; the others are living and well. Labour was normal and easy and the baby showed no asphyxiation at birth. By the next morning cyanosis was apparent, growing deeper when the child cried. Examination showed the heart enlarged a finger's breadth to the right of the sternum; very loud, vigorous beats, with gallop rhythm at times when the child was held upright. There was neither thrill nor murmur. The child nursed well, but has rapidly lost in weight from 7 lb. to less than 6½ lb., where it now stays. Temperature has been continuously subnormal, falling even below 96° F. The blood-count, 6,920,000 red cells, shows the polycythæmia characteristic of congenital heart lesions; hæmoglobin is 35 per cent. The diagnosis must remain uncertain. In the absence of a murmur, patent foramen ovale or other septum defect is possible.

Hydrocephalus.—Dr. W. E. Dandy, of Johns Hopkins Hospital, by invitation, showed lantern-slides telling of their experimental work upon hydrocephalus.

Dr. K. D. Blackfan, of Johns Hopkins Hospital, by invitation, discussed a clinical and pathological consideration of hydrocephalus.

On the basis of experimental investigation conducted by Drs. Dandy and Blackfan, internal hydrocephalus has been studied to determine (1) the absorption of cerebro-spinal fluid from the ventricles and from the subarachnoid space; (2) whether or not there is a communication between the ventricles and the subarachnoid space; and (3) these observations were correlated with the pathological findings. A specially prepared neutral solution of phenolsulphonaphthalein was used. One c.c. (6 mg.) was diluted with 2 to 3 c.c. of freshly obtained cerebro-spinal fluid and injected into the ventricle. The time of its first appearance in the urine and the amount excreted over a two hours' period were estimated. The same procedure was employed in the subarachnoid space. The communication was demonstrated by determining phenolsulphonaphthalein in the spinal fluid from the lumbar subarachnoid space, after its intra-ventricular injection. A normal standard of absorption from the ventricles and the subarachnoid space was determined from patients without hydrocephalus. In such patients phenolsulphonaphthalein appeared in the spinal fluid of the lumbar subarachnoid space after its intra-ventricular injection in 1 to 7 minutes. By demonstrating the patency or exclusion of the communication between the ventricles and the subarachnoid space it was possible to subdivide the cases of internal hydrocephalus into two groups—obstructive and communicating. Seven cases of the obstructive type were studied. In each there was an obstruction, as shown by the non-appearance of phenolsulphonaphthalein in the spinal fluid after its injection into the ventricle. In five an obstruction was demonstrated at autopsy; the other two patients are still alive. The ventricular absorption

was negligible in this group ($\frac{1}{4}$ to 1 per cent.) as compared to the normal (10 to 20 per cent. in two hours). This is evidence that there is practically no absorption from the ventricles. The time of first appearance of phenolsulphonaphthalein in the urine was much delayed (30 to 45 minutes as compared to the normal 7 to 10 minutes). The subarachnoid absorption was normal, as shown by the excretion of 35 to 60 per cent. in a period of two hours. The essential feature in this type of hydrocephalus was the obstruction to the normal passage of cerebro-spinal fluid from the ventricle to the subarachnoid space. When such obstruction exists, hydrocephalus results because the cerebro-spinal fluid cannot escape from its place of origin in the ventric e, where absorption is negligible, to the subarachnoid space, where the absorption is high and takes place normally.

Five cases of the communicating type were studied. In each free communication between the ventricles and the subarachnoid space was demonstrated by the phenolsulphonaphthalein test. This communication was further attested by the appearance of the solution in the ventricular fluid after its injection into the lumbar subarachnoid space. This transmission of fluid to the ventricles after lumbar injection is of the utmost importance in the consideration of the treatment of disease of the central nervous system by intra-spinal medication. The absorption from the subarachnoid space was greatly diminished (10 to 20 per cent. as compared to the normal 35 to 60 per cent.). The time of first appearance in the urine was correspondingly longer. This diminished absorption was constant, and is the physiopathological basis foi the development of this type of internal hydrocephalus. The ventricular absorption (2 to 6 per cent.), though low, was definitely higher than in the obtructive type. Since it has been shown that there is practically no direct absorption from the ventricles, the absorption from the ventricles in this type and in normal individuals must be dependent upon the absorption from the subarachnoid space. No pathological examination was obtained in cases of this type. The essential feature is the low absorption of cerebro-spinal fluid from the subarachnoid space. In the obstructive type an obstruction was found in five of the seven cases. In two cases this was due to adhesions obliterating the foramina of exit at the base of the brain; in one to a tuberculous exudate at the base of the brain; and in two there was a congenital absence of the aqueduct of Sylvius. There was a definite history of meningitis preceding the onset of hydrocephalus in two cases of the communicating group. The hydrocephalus in one case of the obstructive group was preceded by epidemic cerebro-spinal meningitis, and in another, in which hydrocephalus was present at birth, there were old adhesions. These probably resulted from prenatal infection of meningitis. One case of hydrocephalus resulting after removal of a cervical meningocele was studied. There was diminished absorption from the subarachnoid space in this case. This low absorption may have been the reason for the development of hydrocephalus following the removal of the meningocele. These observations show that there are two anatomically different types of hydrocephalus. In the one the treatment should be directed towards removal of the obstruction, in the other a means for increasing the absorption of cerebro-spinal fluid should be supplied.

Dr. Max M. Poot said that Dr. Frazier and he had been doing practically the same work here. In their experiments upon dogs they have used a slightly different technique, the posterior end of the fourth ventricle being exposed by an incision through the occipito-atlanto ligaments, instead of by a double occipital decompression. They had used gauze instead of cotton

within the fourth ventricle, causing blockage of the aqueduct of Sylvius. Aleuronat had also been used, and when combined with the gauze plug, produced a rapidly fatal hydrocephalus in animals. They also succeeded in obtaining hydrocephalus in puppies. Hydrocephalus had resulted in one dog in which the pineal gland had been removed, probably due to adhesions on the floor of the third ventricle. Phenolsulphonaphthalein had been used as the indicator of absorption of cerebro-spinal fluid. Trypan red and trypan blue had also been used, and demonstrated that the stain was very slowly taken up by the lymphatics, passing out of the skull through the nerve-sheaths, principally the optic and olfactory, staining the posterior nasal fossa, from which it was taken up, and carried down the anterior lymphatics of the neck. Their work did not sustain some of the statements of Kopetzky and Haynes. No drugs have been found which increased the cerebro-spinal fluid. Colloidin tubes drained the ventricles well in their experiment. He considered that their work confirmed that which had been reported by Dandy and Blackfan.

Dr. W. G. Spiller considered this work most important. When the aqueduct of Sylvius is occluded, the fourth ventricle usually is not dilated. The rapid increase of cerebro-spinal fluid under certain conditions is most striking. There must be a communication between the ventricles and the subarachnoid space. The X rays will show hydrocephalus by atrophy of the inner table of the skull, corresponding to the cerebral convolutions. He has found that the head is not usually so large in the obstructive as in the non-obstructive hydrocephalus. Puncture of the corpus callosum is useless in the non-obstructive cases. He asked how the phenolsulphonaphthalein is injected; also how the obstruction, when it exists elsewhere than in the roof of the fourth ventricle, is to be removed. Dr. Spiller then referred to the various types of hydrocephalus which he had studied, and finally asked how they would treat the non-obstructive type of hydrocephalus. As far as he knew, the results of treatment had not been brilliant.

Dr. Blackfan, in closing the discussion, said that the technique of a ventricular puncture was not difficult in the advanced cases, as fluid may be obtained by puncture at almost any point through the anterior fontanelle. In the less dilated ventricles the puncture is made at the midpoint of the anterior fontanelle about ½ cm. to the left or right of the middle. The needle is inserted about 2 to 4 cm. An ordinary lumbar puncture needle is used.

Société de Pédiatrie, Paris.

February the 10th, 1914. (*Bulletin No.* 2.)

Vaccinotherapy in Typhoid Fever.—M. Comby reported two further cases in which the efficacy of the treatment seemed undeniable. The dose employed in one case, aged 2½ years, 1 c.c., was large, but well tolerated. The results of all the cases were that Vincent's autolysat is a safe therapeutic agent in doses of 1 c.c., repeated two or three times at intervals of a few days. Tolerance was perfect and no untoward events occurred; recovery took place without relapse.

The Diagnosis of Appendicitis in Infants.—M. Savariaud criticised the paper read by M. Veau at a previous meeting in which he stated (1) that children did not localise appendicular pain, and (2) that there was no tenderness on pressure in the iliac fossa. He agreed with the former contention, but while admitting that contracture and hyperæsthesia of the iliac fossa might be absent, he stated that this was due either to an abnormal situation of the appendix (retrocæcal or pelvic) or to the mucous membrane alone being inflamed. There was nothing peculiar to the infant in this. The only distinction between infants and older children was that the former were not influenced by suggestion.

Congenital Absence of the Pectoral Muscles.—MM. Savariaud and Roederer.—A brachio-thoracic band prevented to some extent abduction and elevation of the arm. There was syndactylism on the same side.

Varicella in a Newborn Child.—MM. Lereboullet and Moricand reported a case in which varicella was contracted fourteen days after birth from the mother, who presented the eruption the day before parturition.

Absence of one Mammary Gland.—M. Mouchet showed a boy, aged 8 years, with this condition.

Scoliosis and Dextrocardia.—M. Ombredanne.

Scapular Tic.—Mme. Nageotte-Wilbouchewitch.

The Nutritive Value of Raw Milk and the Influence of Sugar upon it.—MM. Variot and Lorenz-Monod read a paper based on eighteen cases in which raw milk had beeen tried. In fifteen of these it had to be abandoned and five deaths occurred. Of these, one occurred suddenly after five days of raw milk *régime*, during which the child lost 10 grm., one after ten days, and two after eighteen days. All had severe intestinal symptoms and lost weight. The authors considered raw milk more inferior to homogenised milk even in favourable cases. In a further series of nine cases sugar was added to raw milk to the amount of 28 to 30 grm. daily. In these cases there were fever and intestinal symptoms, and the stools were frequent and fœtid. When this *régime* was continued rickety changes in the skeleton became very marked. Vincent Dickinson.

INFANT HYGIENE IN THE MEDICAL CURRICULUM.

The National Association for the Prevention of Infant Mortality and for the Welfare of Infancy recently investigated the facilities which are at present afforded to medical students for instruction in infant hygiene. The investigation shows that in general the preventive aspects of infant hygiene are inadequately appreciated, and that sufficient attention is not given to the teaching of the home management of infants, and that the whole subject of infant hygiene holds too subordinate a position in the training of medical men as well as of nurses and midwives. The Association urges, therefore, that a course of clinical instruction on infant hygiene should be arranged by all the teaching centres, and that the certificate required from candidates in midwifery for the final examination should include evidence that they have received instruction in ante-natal pathology and hygiene, as well as in the subsequent management of infants.

Abstracts from Current Literature.

Medicine.

The permeability of the meninges (*'Riv. di Clin. Pediat.,'* 1913, xi, *p.* 641).—**G. Squarti** experimented with four substances and tested their presence in the fluid obtained by lumbar puncture. In 48 experiments the permeability was found positive, 10 times out of 10 with formaldehyde given as urotropine, once out of 15 with iodine, twice out of 12 with salicylate of soda, and twice out of 7 with nitrate of soda. Thus two natural groups are formed: (1) Substances which always pass into the cerebro-spinal fluid (100 per cent.), and (2) those which only pass under special circumstances (14·7 per cent.). To the first group belong formaldehyde, chloroform, acetone, etc. To the second belong all the others, as iodine, salicylate of soda, and probably all the substances experimented with by other observers. While there is unanimity of opinion with regard to formaldehyde there is much diversity with regard to the substances in Group 2. These are found in the cerebro-spinal fluid in some instances with normal meninges and in many with diseased meninges. Some observers therefore conclude that there is increased permeability in pathological states, and that iodine passes constantly in tuberculous and never in cerebrospinal meningitis, others asserting the contrary; some deny that salicylates pass through normal meninges, but only in meningitis; others have observed the exact opposite. The author found that normal meninges became permeable to certain drugs, but only when given in large, almost toxic doses, while in meningitis permeability was obtained with medicinal doses. VINCENT DICKINSON.

Cerebro-spinal meningitis (*'Interstate Med. Journ.,'* 1913, xx, p. 795).—**N. P. Barnes** reports seven cases of cerebro-spinal meningitis in which cervical opisthotonos was one of the last signs to develop, whereas contraction of the recti and other abdominal muscles was noticeable in every case. In three instances the disproportion between the pulse-rate and the temperature was marked. Dilatation of the pupils was produced in all the cases when Kernig's sign was being elicited, and also in several instances when the head was being flexed upon the chest. In two cases the palate was completely covered with herpetic vesicles. In this disease the writer noticed that while using an electric light and reflector the rash promptly appeared. The reflector was applied on various parts of the body at different intervals and always brought out the eruption. Even ten minutes after death the eruption could be produced by holding the light about 10 in. from the part for half a minute. This phenomenon could not be induced in meningitis due to other organisms. T. R. WHIPHAM.

Kernig's sign and contracture in the meningeal affections of the infant (*'Le Nourisson,'* 1913, i, *p.* 133).—**J. Renault** and **P. P. Lévy** record cases of cerebro-spinal meningitis, tuberculous meningitis, and meningeal hæmorrhages to show that the infants in whom Kernig's sign is absent are precisely those in whom there is an abundant effusion, whether it be due to meningococcal or streptococcal pus or to blood. When the contracture is not obvious it may be revealed by holding up the infant under the axillæ, when, if it is suffering from meningococcal meningitis its legs will be stiff

and flexed. Paralysis of the neck muscles can be differentiated from contracture by placing the infant in the ventral decubitus. If the head becomes flexed, paralysis is present; while if it remains extended there is contracture.
J. D. Rolleston.

Meningitis due to Pfeiffer's bacillus (*'Le Nourisson,'* 1913, I, *p.* 278).—**L. Lagane** alludes to Blaque's thesis (*v.* British Journal of Children's Diseases, 1912, IX, *p.* 278), and records a fatal case in a male infant, aged 18 months, admitted to hospital for broncho-pneumonia. The only symptom indicating meningitis was a marked somnolence. Lumbar puncture gave issue to a greenish, thick, purulent fluid, containing numerous polymorphs and Pfeiffer's bacilli. Subsequently the characteristic symptoms of meningitis developed. Post mortem the cerebral and spinal meninges showed a large quantity of greenish pus, which was especially thick at the base of the brain and posterior and inferior part of the cerebral hemispheres. There was broncho-pneumonia in both lungs, in which Pfeiffer's bacilli were found associated with pneumococci.
J. D. Rolleston.

Subacute meningitis due to Pfeiffer's bacillus subsequent to infantile spinal paralysis (*'Arch. de méd. des enf.,'* 1913, XVI, *p.* 1845).—**P. Haushalter** and **Jacquot** met with this case in a child aged 2 years.
F. R. B. Atkinson.

Meningococcal arthritis with ill-marked cerebro-spinal meningitis in an infant (*'Gazz. internaz. di med., chir.,' etc.*, 1913, *p.* 920).—**V. Fragale** records a case in a male infant, aged 10 months, breast fed, in whom the meningeal localisation was secondary to meningococcal arthritis of the knee. Before lumbar puncture was performed, and a turbid fluid containing meningococci was removed, the only evidence of meningitis was the occurrence of three convulsive attacks. There were no vomiting, tension of the fontanelle, nor eye troubles, and only slight nuchal rigidity, which developed late. Recovery took place after three injections of anti-meningococcic serum.
J. D. Rolleston.

Meningitis due to parameningococci (*'Gaz. des Hôp.,'* 1913, LXXXV, *p.* 1439).—**R. Dujarie de la Rivière** and **J. Dumas.**—When examining rhino-pharyngeal mucus Dopter found germs resembling meningococci, but differing in not being agglutinated by antimeningococcal serum; he calls them parameningococci. Clinically it was found that some cases of meningitis were due to parameningococci and a specific serum of these was curative. Infection by this organism may assume several clinical forms, viz. pure septicæmia, septicæmia with meningeal signs, and meningitis. In these the blood and the cerebro-spinal fluid may give the organism on cultivation. It is the shape of a coffee-grain, often in pairs with the convex surfaces together. It is Gram-negative, but takes aniline basic dyes readily. It may be intra- or extra-cellular. The cultures from centrifugalised cerebro-spinal fluid are small greyish, transparent colonies, with regular edges. They ferment glucose and maltose, but not the other sugars. They are less pathogenic to guinea-pigs than the ordinary meningococci. There is no doubt of the efficacy of Dopter's anti-parameningococcic serum in cases of this infection.
J. Porter Parkinson.

Parameningococcic meningitis in an infant (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1914, XXXVII, *p.* 45).—**P. Menetrier** and **S. Avezon,** who

had previously recorded a fatal case (*v.* British Journal of Children's Diseases, 1913, x, *p.* 131), now publish one successfully treated by anti-parameningococcic serum in an infant aged 4½ months. The symptoms were those of meningococcic meningitis but no lasting improvement followed the use of meningococcic serum, whereas the first injection of anti-parameningococcic serum caused a sudden fall of the temperature and a gradual disappearance of the meningeal symptoms. The parameningococcus was found by Dopter in the cerebro-spinal fluid. In the subsequent discussion **Netter** said that for the last year he had been using for meningitis cases bottles containing equal parts of anti-meningococcic and anti-parameningococcic serum with the best results. **Hallé** (*ibid.*, *p.* 149) related the case of a male infant, aged 9 months, with diplococcal meningitis, who got worse in spite of two injections of anti-meningococcal serum, but whose temperature fell at once after the first injection of anti-parameningococcal serum. Complete recovery took place after two more injections of the same serum.

J. D. Rolleston.

The ætiology of tuberculous meningitis ('*Wien. klin. Woch.*,' 1913, xxvi, *p.* 247).—**H. Koch.**—The paper is based on a study of 355 cases from Escherich's and Moser's clinics, the autopsies in each case having been made by Ghon. *Season.*—From December onwards the cases show a continuous rise, which reaches its height in April and then slowly diminishes in frequency. *Age.*—A large percentage occurs in the first year; the number increases in the second year, and then rapidly falls. Autopsies on tuberculosis cases from 1906 to 1910 showed that 40 per cent. of the fatal cases in the first year were due to tuberculous meningitis, while in the second year 58 per cent. of the fatal cases were due to this cause. *Heredity.*—Tuberculosis of the father occurred in 27 cases, of the mother in 33, of both parents in 2, and of other near relatives in 8. Heredity accounted for 70 cases, or 23 per cent., almost all of whom were suffering from severe lung disease. In only three cases was there tuberculous meningitis in the mother. One cannot, therefore, speak of an inheritance of a disposition to tuberculous meningitis. *Family history.*—In 75 families, containing 455, details as to other children in the family were obtainable: 47 had died of tuberculosis and 22 of these of tuberculous meningitis. *Age.*—Of 302 cases, 145 were boys and 157 girls. *Infant feeding.*—Among children up to three years 111 were breast-fed and 24 artificially fed. Six breast-fed children died of tuberculous meningitis, so that suckling cannot be held to afford any protective influence. *Previous diseases.*—130 had had measles, which in 30 had occurred in the year before the meningitis, 67 had had whooping-cough, 36 in the previous year, 36 varicella, 17 diphtheria, 9 scarlet fever, 30 lung diseases, 34 tuberculous diseases of various organs, of which 11 involved the brain or the meninges. In cases with a recent history of measles or whooping-cough the autopsies showed an acute or subacute miliary tuberculosis in addition to a chronic process. With the exception of tuberculosis, lung diseases very rarely occurred directly before the attack of meningitis. *Trauma* had occurred in 13 cases. The autopsies showed two important facts: (1) Old tuberculous processes in 45 per cent. of the cases consisted of a primary focus and regional lymph-glands. In the majority of cases tuberculosis existed in two or more organs besides the primary focus. (2) With few exceptions the old tuberculous processes were still in a stage of activity.

J. D. Rolleston.

On a special mode of onset of tuberculous meningitis, with remarks on direct bacteriological examination of the cerebro-spinal fluid (*'Osp. dei Bamb. di Milan.,'* 1913, II, *No.* 8).—**G. Repaci** records a case of tuberculous meningitis in a boy, aged 5 years, in which the meningeal symptoms were preceded for a long time by ordinary colitis (*cf.* British Journal of Children's Diseases, 1912, IX, *p.* 555). As the result of long experience, he states that he has never failed to find tubercle bacilli in direct examination of the cerebro-spinal fluid in tuberculous meningitis, although the search has sometimes lasted two or three hours. J. D. Rolleston.

Acetonæmic vomiting and acute encephalitis (*'Ann. de Méd. et Chir. Inf.,'* 1913, XVII, *p.* 306).—**Babonneix** and **Blechmann** have observed a curious case of acetonæmic vomiting, terminated by signs of acute encephalitis. A child, aged 5 years, who had for months passed an excess of water, suddenly had an attack of acetonæmic vomiting. On the fifth day right hemiplegia set in, with an extensor plantar reflex pointing to its organic origin; the paralysis disappeared in two hours, the next day it returned for a few hours and then the child became torpid; a broncho-pneumonia supervened and the child died. In the absence of an autopsy the authors consider that a spasm of the Sylvian artery would account for the cerebral symptoms, and hepatic insufficiency for the general condition. Lumbar puncture gave a negative result.

J. Porter Parkinson.

Infantile cerebro-cerebellar diplegia of flaccid, atonic-astasic type (*'Amer. Journ. Dis. Child.,'* 1913, V, *p.* 425).—**L. Pierce Clarke** describes under this title a condition not hitherto comprehensively studied. Usually nothing abnormal is noticed until the child is a few months old. Then it becomes evident that it cannot hold up its head, sit or stand, though the motility of the limbs is normal. The most marked feature is the enormously exaggerated mobility of the joints, not very dissimilar from myatonia congenita. The limbs can be placed and easily maintained without pain in most arbitrary positions. In later years ataxia of the cerebellar type is superadded, and incoordination of all extremities is marked whenever the child attempts to stand or walk. Mutism is common, and very marked speech defect constant. Mental defect is also present. These three symptoms, pronounced flaccidity, mutism, and idiocy, are the three prominent and constant symptoms establishing the disease type. Other symptoms may vary according to the morbid anatomy of the case; transition cases merging into the classical spastic syndrome have been recorded by Förster. The condition is attributed to an unknown cause acting during intra-uterine life and resulting in a permanent disablement of the motor functions of the cerebellum and forebrain. Reginald Miller.

Juvenile general paralysis and hereditary syphilis (*'Thèses de Paris,'* 1913-14, *No.* 37).—**J. F. J. Huguet.**—The clinical picture of general paralysis in the child or adolescent is rarely as typical as in the adult. From the psychical aspect the disease is often incomplete, and the physical signs predominate. A fairly large number of patients regarded as backward, idiots, or epileptics are really examples of general paralysis, and the same may be said of some cases of dementia præcox. In diagnosis great importance attaches to lymphocytosis and Wassermann's reaction in the cerebro-spinal fluid. Clinically an onset with a convulsive attack is much

more frequent than in the adult. Henceforward there is progressive dementia. There is almost always an absence of delirium. Infantile general paralysis and tabes are frequently associated. The frequency and importance of cerebellar symptoms may often cause difficulty in diagnosis. The thesis contains the histories of six original cases in patients aged from $3\frac{1}{2}$ to 20 years. J. D. Rolleston.

Tubercle of the cerebellum (*'Dub. Journ. Med. Sci.,'* 1913, II, *p.* 212). —**W. Boxwell.**—A boy, aged 10 years, the only child of a father dead of phthisis, came under observation on January 15, 1913. There was a somewhat vague history of headache, vomiting and defective sight. He was a well-developed, intelligent child, and explained that he had had severe headaches at fairly frequent intervals, but that vomiting came on when playing or romping, rather than after food or when at rest. On physical examination his gait was found to be strutting in character, with some ataxia, but without tendency to reel to one or other side. The jerks were variable, but generally increased, especially in the right leg, and a clonus could sometimes be developed. The plantar reflexes were also variable. The abdominal reflexes were present, the right cremasteric generally absent. Nystagmus was marked. Distant vision bad. No vertigo, no history of fits, and no tremor. Hearing good. Pupils large and even, tongue normal. On February 1, after getting out of bed, he became giddy and fell, and about this time he had his first and only attack of vomiting. On February 4, a "lower neuron" paralysis of the left facial nerve set in, followed on February 8 by deafness in the left ear. An ophthalmoscopic examination showed "double-choked disc" with atrophy in the left eye. On February 9 he had an attack of convulsions. The diagnosis of a growth of some sort, probably tubercular, situated in the left lobe of the cerebellum, was now partly obvious, and the almost sudden development of dysdiadokokinesis of the left arm strengthened the impression. A decompression operation was undertaken, but the child never quite recovered from the shock of the operation and died two days after. A large tubercular mass, one and a quarter inches in diameter, was found post mortem, occupying the left lobe of the cerebellum and displacing the right lobe considerably to the right side. No other evidence of tuberculosis was found. J. Allan.

Chorea: Two cases in which Streptococcus viridans was found in the blood (*'Journ. Amer. Med. Assoc.,'* 1914, LXII, *p.* 110).—**J. H. Richards** reports two cases of chorea in which the organism found in the blood in no way differed from the description of the *Micrococcus rheumaticus* of Poynton and Paine, but on the other hand it was culturally identical with the description of the green-producing streptococcus of Schottmueller. The fact that the coccus of Schottmueller and the coccus of Poynton and Paine are culturally identical was observed by Hastings in 1912, and later worked out by Thro at the suggestion of Hastings. Undoubtedly the coccus isolated by Dana and others is identical with the coccus found in the two cases reported. The number of cases, however, is too small to form definite opinions as to the ætiology of chorea. That the coccus found in the blood is associated with endocarditis there is no doubt; but that it is the ætiologic factor in chorea is not proved. The peculiarities of the coccus isolated are as follows: (1) It is of very slow growth. Sometimes the *Streptococcus*

viridans does not appear in the original blood-culture for twelve days. (2) Green is produced on blood-agar plates. (3) It is of relatively slight toxicity. (4) It is not dissolved by bile as is the pneumococcus. (5) It does not peptonise milk as does *Micrococcus zymogenes.*

T. R. Whipham.

Epilepsy in children (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 2291).—**M. Woods** reports seven cases of epilepsy in children which can be traced to single alcoholic intoxications on the part of one or both parents who were otherwise teetotalers. Chronic alcoholism in the parents is commonly held to be responsible for a large percentage of epileptic children, but a certain number of unknown origin the writer considers are possibly due to a temporary or unwonted condition of intoxication of one of the parents at the time of procreation. The alcohol, it is presumed, influences or changes the constituents of the seminal fluid, paralysing temporarily and otherwise altering the spermatozoa. The cases are as follows: (1) The child, the result of this union, at a time when the father was under the influence of liquor, was posthumous, being born six months after the death of its father, who died suddenly while mailing a letter three months after the last visit of his wife. The child developed epilepsy in its third year. (2) The patient was the child of an engineer called from home to fill an important position on a sugar plantation in Cuba. He had been a total abstainer, but before embarking for his new quarters, leaving his wife and two children behind, was tendered a farewell banquet by friends, when he got into a state as he called it of "alcoholic hilarity," the first time in his life. Nine months after his embarcation his wife gave birth to a son who developed epilepsy in his fifth year. (3) The patient was the daughter of the widow of a soldier who died in the Philippine Islands of dysentery three months after landing. His wife asserted that she never knew her husband to drink anything intoxicating until a few days before his enlistment, when he came home in a state of alcoholic excitement, after having spent the day with some soldier friends. Next day he enlisted and she never saw him again. In due time a boy was born; on the third day after its birth it went into convulsions, remaining in them for nearly two days, and since it averaged during the eight years of its life about one *grand mal* weekly, with frequent attacks of *petit mal,* although it has had as many as six convulsions in a day. (4) The patient was the daughter of a medical man who had never tasted liquor until the night of his first intoxication. When he began the study of medicine he was married, with two healthy children. There was no family history of epilepsy or other neuroses. On the night of the commencement of his college, one of the professors, as was the custom, gave a reception to the new-fledged doctors, when he drank his first glass of wine, and another and another, and promptly became intoxicated. He declares that his epileptic child, born about the regular time after this "debauch," as he called it, developed convulsions in its second year, consisting at first of but three, at intervals of a week apart, when they disappeared for two years, but returned again at periods of about one every two or three months. Of late they have been developing with greater rapidity, and an erratic disposition on the part of the patient amounting to mild insanity has appeared. The other three illustrations are already on record. Two of them in different families were traced by the parents themselves to single transgressions in the use of intoxicants. The father of one of the families afterwards became a chronic inebriate and died of pneumonia following an attack of delirium tremens, but beyond that there was no

trace of degeneracy in his race as far as could be discovered. The child is still living, an inmate of an epileptic colony. The wife is married again and the mother of two robust children. T. R. Whipham.

The recognition and treatment of true idiopathic epilepsy in children (*'Dub. Journ. Med. Sci.,'* 1913, II, *p.* 92).—**J. N. G. Nolan** emphasises the importance of careful investigation in each case. The general treatment of the causative disease must be undertaken thoroughly, and of great importance is the building up of the patient's general strength. The treatment of epilepsy at the onset of the disease may be (1) medicinal; (2) dietetic; (3) a combination of both of the above, with general hygienic treatment. A carefully regulated life with a purin-free diet and a small daily dose of bromides is the treatment *par excellence*. The smallest dose of bromide which appears to exert a favourable influence over the fits should be taken as the maximum, and this never should exceed 60 gr. The effect is intensified by the full quantity being given at one time. The best time is at night or before rising, depending on whether the patient is subject to diurnal or nocturnal attacks. Plenty of water should be given with the dose, and sufficient laxative to ensure a daily evacuation of the bowels. The best adjuvant is the syrup of Virginian prune. Education must be carefully supervised. J. Allan.

Mental deficiency and delinquency (*'Journ. Amer. Med. Assoc.,'* 1913, LXI, *p.* 471).—**Olga Bridgman,** as a result of an examination of 104 children who had been committed to the State Training School for Girls at Geneva as sexual delinquents, found that 101, or 97 per cent., were feeble-minded according to the Binet tests. This would seem to prove that mental deficiency is an important factor in the causation of sexual immorality, and to indicate the routine employment of a mental examination for all children of this class in order to determine how far they may be held responsible. Of the feeble-minded comparatively few are aggressive sexual perverts, but most are helpless victims, who should have protection, and who, under close supervision, may lead useful contented lives. By no means all delinquent girls are feeble-minded, but probably those not amenable to supervision and direction in their own homes are largely so.

T. R. Whipham.

Acquired mental defect (*'Clin. Journ.,'* 1913, XLII, *p.* 27).—**A. F. Tredgold** says that primary mental defect is due to deficiency or pathological change in the make-up of the germ-plasm, while in acquired mental deficiency the germ-plasm is healthy but is interfered with by external influences at or after birth, a neuropathic heredity being absent. It includes about 10 to 20 per cent. of all forms of amentia. It may be due to toxins generated by such organisms as the *Diplococcus intracellularis* or the causative agent of polio-encephalitis. There may be prodromal symptoms of malaise, but usually the onset is violent with headache and convulsions. A *status epilepticus* may ensue, the coma deepens and death ensues. Complete recovery is rare; usually there is some mental and physical deficiency shown by apathy, irritability, and occasionally deaf-mutism. The second group is caused by vascular lesions, hæmorrhage due to prolonged labour but not to instrumental delivery being the commonest. The child at birth is asphyxiated, with a feeble pulse and contracted pupils and muscles; opisthotonos and convulsions may occur. Paralyses supervene, mono- and hemiplegias being those most usually

seen, but di- and paraplegia are common. Jacksonian and epileptic convulsions are frequent. The degree of mental deficiency is greatest in cases of di- and paraplegias where both hemispheres are involved, otherwise there is no direct relationship between the amount of paralysis and the degradation of the mentality. Frequent convulsions are of bad prognosis. Toxic have a better outlook than vascular cases. CHRISTOPHER ROLLESTON.

Involvement of the sympathetic nervous system in diseases of infants (*'Monatsschr. f. Kinderheilk.,'* 1913, XII, *p.* 399).—**E. Tezner** finds in all infants seriously ill a symptom-complex due to hypotonia or atony of the cranio-sympathetic system. In acute intoxications, hypotonia of the sympathetic occurs, and is never absent in pure chronic diseases of nutrition. Premature children have in the first three months a greater tendency to sympathetic hypotonia than children born at term. Sympathetic paralysis is a very unfavourable sign, but exceptionally, in spite of vascular paralysis, recovery is possible. F. R. B. ATKINSON.

Raynaud's syndrome in the child (*'Thèses de Paris,'* 1913–14, *No.* 3).—**A. Tridon** distinguishes four groups. In the first there are only vaso-motor troubles (local syncope and asphyxia); in the second there is slight superficial and limited gangrene; in the third the gangrene is more or less extensive and deep; in the fourth group are placed the doubtful or associated cases. In almost every case the child has had neuropathic antecedents, and the affection has started in the cold weather. In only a few cases have neuritis and endarteritis been found. The theory of vascular spasm is very hypothetical, and is not sufficient to explain the severe cases. A toxi-infective theory seems more probable, auto-intoxication by renal insufficiency, tuberculosis and syphilis being the three most important causes. The thesis contains the histories of thirty-nine cases in children aged from 10 days to 15 years. J. D. ROLLESTON.

Myxœdema following an acute infection in childhood (*'Bull. et mém. Soc. méd. Hóp. de Paris,'* 1913, XXXVI, *p.* 298).—**C. Achard** and **F. Saint-Girons** record two cases: (1) The first symptoms of myxœdema developed in a boy, aged 12 years, after a severe attack of measles complicated by convulsions, and slowly progressed. Some improvement followed thyroid treatment. An attack of typhoid fever at the age of thirty had no effect upon his condition. Death took place at forty from progressive asthenia. At the necropsy the thyroid was completely absent. The only parathyroid that could be found was practically normal. (2) An attack of acute rheumatism in a boy, aged 9 years, was followed by incomplete myxœdema accompanied by symptoms of chronic progressive rheumatism. Wassermann's reaction was negative. The myxœdema was probably associated with rheumatic thyroiditis, but it was difficult to say whether the chronic rheumatism was the result of the acute attack or was a consequence of thyroiditis. Thyroid medication was tried at the age of fifteen, but was not conclusive.
J. D. ROLLESTON.

Lesions of the suprarenals in scarlet fever (*'Arch. f. Kinderheilk.,'* 1913, *'Baginsky Festschrift,' p.* 397).—**V. Hutinel.**—Lesions of the suprarenals found post-mortem in cases of scarlet fever that have died with symptoms of suprarenal insufficiency may be of various kinds. Sometimes they are of old standing and consist of more or less extensive caseation of one or both organs. In other cases gross hæmorrhages may be present.

Degeneration and hæmorrhagic changes may sometimes be found microscopically in suprarenals which appear normal to the naked eye (*v.* British Journal of Children's Diseases, 1913, x, *p.* 32). It is important to bear in mind that in some cases where clinical symptoms, especially hypotension, tachycardia, and asthenia, have suggested suprarenal lesions, histological examination of these organs has been negative, but lesions have been found in other organs, such as the heart, liver, pancreas, thyroid, or hypophysis. The importance of the suprarenals should not be exaggerated.

J. D. Rolleston.

Ophthalmology.

Hydrophthalmos (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 1103).—**W. Zentmayer** reports three cases of this condition, which is also called buphthalmos or congenital glaucoma. The first was in a coloured child, aged 3 years, whose right eye was large at birth and had increased but little. There was a broad coloboma of the iris in the lower part. The left eye had been gradually growing larger for three months and this was enucleated. It measured 35 by 28 mm. The anterior chamber was very large and contained a watery fluid. The lens was cataractous and dislocated into the anterior chamber. The iris was atrophic and presented a large coloboma below. The ciliary body was markedly atrophic, as were the choroid and retina, though to a less degree. The vitreous chamber was filled with a brownish-yellow fluid, and the nerve was atrophic and deeply cupped. Schlemm's canal was absent, and the angle of the anterior chamber was completely obliterated by connective tissue. The second case was a white child, aged 3 years. Both globes were very large and the tension moderately high. Vision was evidently much affected, as there was nystagmus, and photophobia was extreme. Under ether anæsthesia iridectomy was attempted when the lens and a considerable amount of the vitreous extruded. The eye was lost from the resulting iridocyclitis. Later cyclodialysis was attempted on the other eye by another surgeon, but it failed. Sclerotomy and subsequently iridectomy was performed, but the progress of the disease was unchecked. The third case was a boy, aged 15 months, whose right eye at birth was much larger than the left and had been gradually increasing. The tension was decidedly increased and the cornea hazy. Iridectomy was performed and the wound healed. For nearly three years no change was noticed in the eye, but then marked photophobia supervened in the left eye, although there was no sign of any irritation in either. The right eye was enucleated and the photophobia immediately disappeared. The left eye has been normal in all respects. The enucleated eye measured 32 × 29 mm. The anterior chamber was 5 mm. in depth and contained no fluid. The lens was cataractous. The iris and ciliary body were thickened, and the vitreous chamber was filled with clotted blood. The retina was detached, but there was no apparent change in the choroid nor any appreciable cupping of the disc. Schlemm's canal was absent except at one point, where it was represented by endothelial cells. The optic nerve was atrophic and the disc was slightly cupped microscopically. The essential factor in the production of hydrophthalmos appears to be an absence or incomplete development of the canal of Schlemm, while the presence in the angle of the anterior chamber of prenatal connective tissue is probably a contributing factor. A full account of the symptoms, ætiology and treatment of the condition is given.

T. R. Whipham.

Oxycephaly (*'Arch. of Pediat.,'* 1913, xxx, *p.* 820).—**E. E. Cleaver** reports three cases, and considers it a congenital deformity of the skull due to premature ossification of the cranial sutures. It is most frequent in males, may occur in two members of the same family, and may be transmitted to offspring. The mentality is normal in many cases, and is usually associated with eye symptoms, and also in many cases with early appearance of the teeth, peculiarities of elbow and other joints, encephaloceles, epilepsy, and symptoms simulating brain tumour. F. R. B. Atkinson.

Double congenital coloboma of the lids with symblepharon (*'Ophthal. Review,'* 1913, xxxii, *p.* 304).—**P. J. Hay.**—The case was that of a healthy, well-developed girl, aged 4 years and 10 months, in whom the following particulars were noted: The lower lid of the right eye showed a quadrilateral gap in its inner third, which involved the whole thickness of the lid from before backwards, and reached down to the floor of the fornix. The coloboma was lined with normal skin except at its outer end, where the skin was replaced with conjunctiva. The punctum lachrymale was situated and led into a blind lachrymal canal, extending at this end downwards and inwards for a distance of 10 mm. The lashes were confined to the normal portion of the lid, *i. e.* to the temporal side of the punctum lachrymale; there were none on the nasal side. From the bottom of the coloboma a fold of tissue, 5 mm. wide, white near its point of origin, otherwise pink and fleshy-looking, passed on to the globe of the eye, to end at the limbus of the naso-inferior quadrant of the cornea. It was attached to the underlying tissues throughout the whole of its extent. A smaller fold took its origin from the temporal edge of the one just described, and passed downwards and outwards towards the sclera. The upper lid also showed a coloboma, much smaller than the one in the lower lid, and situated more to the nasal side. It was triangular in shape, and involved only the margin of the lid. The lashes were not absent in the gap, but were very fine and few in number. There was no punctum lachrymale. The movements of the eye were quite free. There was no defect in the orbital margin, or the eyebrows, nor was there any other malformation of the eye or face. The cornea, iris, and the appearances of the fundus were quite normal. A section of the fold of skin described showed the ordinary constituents of the skin, with the exception of glands and hair-follicles, which were absent. J. Allan.

Congenital bilateral ptosis, epicanthus, and paralysis of the superior rectus (*'Gaz. des Sci. méd. de Bordeaux,'* 1913, xxxiv, *p.* 438).—**E. Ginestous** records a case in a female child, aged 25 months. There was no ptosis or other anomaly in the family. J. D. Kolleston.

Unequal pupils in several members of a family (*'Oph. Review,'* 1913, xxxii, *p.* 323).—**Paderstein.**—Out of a family of five persons the mother, a daughter, aged 14 years, and another daughter, aged 9 years, showed marked differences in the pupils; the father showed a slight difference, as did a daughter of 11. The father had suffered from syphilis, but with this exception the family had no history of any ailment to account for this abnormality, nor was anything discovered on careful investigation. All the reactions were normal. The son of a sister of the mother presented the same peculiarity. J. Allan.

Metabolism studies of amaurotic family idiocy, with clinical and pathological observations (*'Arch. of Pediat.,'* 1913, xxx, *p.* 825).—**A. Hymanson** describes six cases of this disease. In two cases two brothers

were married to two sisters, and their parents were first cousins; two other cases were twins. Nitrogen, sulphur and phosphorus partitions were conducted on the excreta in two cases, and it was found that the metabolism was not at all affected; if anything the absorption and retention of the various food fractions was above the normal. Autopsy showed the alveoli of the lungs in the hepatised areas filled with exudate consisting chiefly of large blood-cells. The thymus was interspersed with dense strands of connective tissue. A few of the liver-cells were fatty. The spleen, heart and thyroid were normal. The cells of the anterior horn of the spinal cord were much swollen. The same changes were found in the posterior ganglion cells, the cells of the cerebral cortex, basal ganglion, pons and medulla. The optic nerve was made up of numerous small bundles separated by wide spaces. The author believes the intestinal tract and ductless glands require careful study. F. R. B. Atkinson.

Orbital varicocele (*'Journ. de méd. de Bordeaux,'* 1914, lxxxv, *p.* 196).—**C. and H. Fromaget.**—A girl, aged 6½ years, had had a slight exophthalmos from birth, which became more pronounced when she laughed or cried—in fact, whenever there was any increase in intra-thoracic pressure and obstruction to the venous return. Nothing was found in the eye, heart, or vessels. The members of the mother's family suffered from varicose veins. Only one other case of orbital varicocele, published by Magnus, has been congenital. J. D. Rolleston.

Subacute exophthalmic goitre in a child (*'Med. Chronicle,'* 1913, xxvi, *p.* 113).—**H. T. Ashby** reports the case of a girl, aged 12 years, who presented all the symptoms and characteristics of an advanced exophthalmic goitre. The pulse was very quick and at times uncountable. There was extreme exophthalmos and a rhythmic tremor in the hands. The thyroid was much enlarged and hard. The symptoms commenced four weeks previously and were rapidly becoming worse. Rest, digitalis, belladonna and other drugs were tried with no effect, and in three weeks the patient lost 5 lb. in weight. Thyroidectomy was proposed, but as she was very nervous and excitable the prospect of operation made her worse, and when the time came she was not fit to stand it. When she found that no operation was to be performed she immediately became more quiet. She was then started with thyroidectin, gr. v, three times a day, and improved steadily. She has since gained in weight and is much better. T. R. Whipham.

The duration of gonococcal ophthalmia neonatorum and its vaccine treatment (*'Thèses de Paris,'* 1913–14, *No.* 213).—**A. Klébanski** came to the following conclusions after study of 116 cases treated at the eye clinique of the Hôpital Lariboisière between June, 1906, and January, 1913: (1) The duration of gonococcal ophthalmia neonatorum varies from eight to ninety days; its average is thirty-five days. (2) The earlier the treatment is begun, the shorter the duration of the disease. (3) Combination of argyrol with silver nitrate solution was more effective than treatment by silver nitrate only, since corneal complications occurred in only 16·5 per cent. instead of in 25 per cent. (4) Nicolle and Blaizot's vaccine had no effect on the course or duration of the disease. J. D. Rolleston.

Inclusion blenorrhœa of infants (*'Med. Press,'* 1913, ii, *p.* 592).—**Sussmann** said that in blenorrhœa of infants gonococci were found in not more than half of the cases. Up to the present, no uniform ætiology was

known in respect of the other half. This lacuna had been filled up by the so-called "inclusion blenorrhœa." In the epithelial cells there were included certain bodies that sat cap-like on the nucleus of the cell, such as were seen in trachoma. From the staining and the different stages one could see that these bodies grew, and that, therefore, they formed a living virus. Originally they were granules embedded in the protoplasm, which at first were coloured blue, but as the isolated granules grew they became red in colour. These bodies were present also in the secretions of the mother. This inclusion blenorrhœa was present everywhere where there was trachoma. Half of the blenorrhœas were inclusion blenorrhœas; mixed infections were rare, but they did occur. The longer incubation period sufficed to distinguish this form of blenorrhœa from the gonococcal. This also explained the occurrence of late attacks. The secretion was not so thick and yellow as in the gonorrhœal form of the disease. J. Allan.

Phlyctenular conjunctivitis (*'Med. Officer,'* 1914, xi, *p.* 63).—**F. H. Morison,** reporting to the Cumberland Education Committee on phlyctenular conjunctivitis and keratitis in their schools, suggests that the most rational method of treating these conditions would be to refer the child for a minute clinical examination to ascertain any condition which may be associated with the phlyctenules. He points out that many of these children would undoubtedly be found to react to one of the tuberculin tests, indicating the presence of an associated active or latent tubercular lesion. In treating the condition it is essential, therefore, to keep in mind the presence of associated diseases, as local treatment alone, while effecting a temporary improvement, will not succeed in securing a permanent result. Children suffering from phlyctenular ophthalmia, especially when the cornea is involved, are unfit to attend school, as the phlyctenules are then associated with photophobia and often blepharospasm. The children should be excluded from school and allowed to lead an open-air life, and receive suitable general, as well as local, treatment. At the same time an attempt should be made to improve any unsanitary home surroundings which may exist.

J. Allan.

Diabetic cataract in children (*'Thèses de Paris,'* 1913–14, *No.* 225).—**Mlle. G. Schapira.**—Diabetic cataract is very rare in children. It appears in the severe or pancreatic forms of diabetes in the cachectic stage. Its principal characters are: (1) It is almost always bilateral. (2) It assumes the soft form. (3) It appears rapidly, and reaches maturity in a few days. Its prognostic value in the child is considerable, as it indicates a fatal issue sooner or later. Operation is not only needless, but even dangerous, owing to the likelihood of pulmonary apoplexy or coma. The thesis contains the histories of ten cases in children, aged from 9 to 15 years —six girls, four boys—including a personal case in a boy, aged 14 years, who had suffered from diabetes for three years, and died of coma four months after the appearance of bilateral soft cataract.

J. D. Rolleston.

Frequency and diagnostic significance of optic neuritis in infantile syphilis (*'Dermat. Woch.,'* 1913, lv, *p.* 1363).—**S. C. Beck** and **M. Mohr** examined 126 syphilitic infants aged from 8 days to 18 months and found well-marked optic neuritis in 62. It was most frequent in the first three months of life, and then gradually diminished in frequency, but was still

met with in a third of the cases up to the age of eighteen months. The finding of optic neuritis in heredo-syphilis is of considerable diagnostic value. It is one of the most persistent symptoms, and may often be the only one present. J. D. Rolleston.

Golf-ball burn of eye (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 965).—**H. E. Thomason** reports the case of a boy, aged 13 years, who thrust his knife into the centre of a golf-ball, causing a liquid to spurt into the right eye. There was marked swelling of both conjunctivæ, so that the lids were everted. The cornea was milky white, and only perception of light was present. There was agonising pain, for which a 4 per cent. solution of cocaine was instilled. He was sent to hospital, where 1 per cent. solution of atropine sulphate, sterile olive oil and cold applications, followed in twenty-four hours by hot, were applied. On the third day both palpebral conjunctivæ were detached, and on the tenth day the conjunctiva was removed. The epithelial layer of the cornea sloughed on the fourth day and was removed. The lesion resulted in only a slight symblepharon. Vision unaided was $\frac{20}{40}$, and with + 1 spher. was $\frac{20}{30}$. There was a small leukoma on the cornea at the inner canthus. A 5 per cent. dionin ointment was the chief treatment after the acute symptoms had subsided (*v.* British Journal of Children's Diseases, 1913, x, *p.* 521). T. R. Whipham.

Burn of eyes from contents of golf-ball core (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 2302).—**H. Lowell** states that during the last few years cases of severe permanent injury due to corneal and conjunctival burns have been reported from all over the country. The burns referred to have been caused by the liquid contained in the small rubber core of certain golf-balls which have been cut open by curious children. Almost invariably the history is that some child finds an old golf-ball with its covering partly off. He removes the rest of the cover and rubber, and then comes to the core ball; this he bounces until it bursts, or punctures it with a knife. The contained fluid spurts out on to his clothing and into his eyes. There are apparently two makes of golf-balls on the market, each containing a different highly caustic substance. Dr. R. L. Emerson analysed the semi-fluid mass contained in one of the golf-balls, said to be of similar make to those causing these burns, and found it to contain a mixture of barium sulphate, soap, and a free alkali. Balls of another make have been found to contain a solution in which there is zinc chloride. A girl, aged 9 years, was admitted to the infirmary on September 1, 1911, with a history that three days previous, while she was cutting open a golf-ball core, the contents spurted into the left eye. Vision in right eye was normal; vision in left eye was not obtained, there being so much chemosis and swelling of the conjunctiva, more marked below. The lower fornix was practically obliterated and the cornea was diffusely whitish and hazy. September 3: Corneal condition was the same, but there was marked hypopyon filling about one third of the anterior chamber. The Saemisch operation was done. On September 8 cornea was clearer above, and hypopyon had somewhat decreased. October 12: The cornea was only a little clearer, hypopyon had disappeared, and there was only slight circumcorneal injection. October 14: The case was discharged; vision in the right eye had not been affected; vision in the left eye *nil*. Another girl, aged 11 years, was admitted on October 23, 1912. Previous to this she was treated by a local physician. On October 19, while she was playing with a golf-ball core, it ruptured, and contents spurted into

her right eye. When first seen, the upper lid was bound down to the cornea with cicatricial tissue, which extended the whole length of the lid and was attached below to the lower margin of the cornea. There was much pain and photophobia. The lid was peeled from the cornea, and Cargile membrane covered over the conjunctival surface. On October 28 there was some swelling of the conjunctiva and lids, the cornea was still hazy, and the pupil well dilated. The child, when seen at her home in June, had vision in the injured right eye of 20/200. The cornea was fairly clear toward the periphery, with a very marked central haze. A boy, aged 13 years, was admitted on April 11, 1913. Three days previous he opened a golf-ball core with his jack-knife. His face was not more than a foot from the ball when he opened it, and the fluid squirted into his right eye. In this case the lid was not adherent to the cornea. When first seen, neither the corneal tissue nor the iris could be made out; the whole eye looked as though it was covered by a diphtheritic membrane. There was considerable pain, photophobia, and swelling of conjunctiva and lids. For ten days the condition remained about the same, in spite of the usual treatment. On about the twelfth day the whitish membrane had disappeared, leaving the outer third of the cornea clear. Hypopyon appeared about the sixteenth day, and the Saemisch operation was done. When he left the hospital on May 29 his vision in the good eye was normal; in the right eye, shadows. October 4: His vision was about 20/200 plus in the right eye. The eye was white and quiet. The outer third and upper fourth of the cornea was clear; the rest was densely leucomatous. There was a large symblepharon from lower corneal margin to lower fornix. Another boy, aged 12 years, was bouncing a golf-ball core, April 10, 1913; it burst, and the contained fluid flew into his face and eyes. The next day the cornea in the right eye was slightly hazy centrally; cornea in the left eye was clear. Considerable photophobia, swelling of lids, and conjunctival injection in both eyes. Face was slightly burned around his chin. The left eye became white and quiet in a short time. The right eye cleared up rapidly, and on April 14 the cornea was clear. The burn was apparently most superficial, the deep corneal tissue not being invaded as it was in the foregoing cases. T. R. Whipham.

Anterior ring of opacity in the lens, following a contusion (Vossius's contusion ring) (*'Ophthal. Review,'* 1913, xxxii, *p.* 295).—**G. Coats** records the case of a boy, aged 12 years, who, eight days before he was seen, had received a blow on the right eye with a large piece of clay. No wound was visible, but there was a good deal of conjunctival and ciliary congestion, and hæmorrhage was present, diffused throughout the aqueous and as a deposit at the bottom of the chamber. The pupil had been dilated with atropin. Examination with transmitted light showed the presence of a small ring of opacity in the centre of the pupil and on the level of the anterior surface of the lens. It measured about a quarter of the diameter of the dilated pupil, or slightly less, probably 1·5 to 2 mm. Its general outline was perfectly circular, but in places there was some scalloping of the edge. With high magnification the opacity could be resolved into granules of extreme fineness; on its outer aspect it was fairly dense and sharply delimited against the clear lens substance; on its inner aspect its edge was much less defined, and, indeed, the whole centre seemed to be occupied by scattered, scarcely visible granules. The circle was complete, but its breadth varied, being greatest upwards and inwards. The opacity, while plainly visible by transmitted light, was extraordinarily difficult to see by oblique

illumination; occasionally one seemed to catch a glimpse of a brown ring, but it was impossible to focus anything sharply with the loupe. Nothing pathological was visible in the fundus, and the other eye was normal. Three days later the blood had been absorbed and vision was $\frac{6}{5}$. The pupils were equal and active; no ruptures of the sphincters. The opacity had become a little lighter, but was still clearly visible. It was impossible, however, to see any trace of it with the loupe. The author gives a brief *résumé* of the literature on the subject.

J. Allan.

Secondary buphthalmia treated by the trepanation of Elliott (*'Journ. de Méd. de Bordeaux,'* 1914, lxxxv, *p.* 142).—**H. Fromaget** describes the case of a girl, aged 12 years, suffering from this condition as the result of an accident to the eye. A glaucomatous process occurred, but was immediately arrested by Elliott's operation.

F. R. B. Atkinson.

Errors of refraction in school-children (*'Lancet,'* 1914, i, *p.* 450). – **A. S. Percival** emphasises the fact that the examination should be carried out in a systematic manner. Children may be divided into two classes—those who do, and those who do not know their letters. The first step should be to examine each child's eyes with the large lens for focal illumination in one hand, and a spring watch-maker's glass in your eye so as to see whether any corneal trouble is present—ulcers, nebulæ, etc.—or whether there is any haziness of the pupil that may be due to lamellar cataract. In the case of illiterate children dilate the pupil with homatropine and estimate any error of refraction by means of retinoscopy. Children who can read should first be tested with test-types which are placed a distance of six metres, each eye being tested separately. The pin-hole diaphragm test is a valuable test of an error of refraction, because whenever the visual acuteness of a person is increased by looking through a pin-hole it is absolutely certain that his defective sight is due in part, if not entirely, to an error of refraction. If the defective sight is not improved, or if the vision becomes less, it is certain that there is some other defect in the eye. It may be opacities in the media, choroiditis, choroidal atrophy, or something wrong with the optic nerve or with the brain, as in amblyopia. The author gives some general directions for the treatment of myopia, hypermetropia, astigmatism, and anisometropia, and concludes with some remarks regarding retinoscopy.

J. Allan.

Squint and its correction (*'New York State Journ. Med.,'* 1914, xiv, *p.* 40).—**J. J. O'Brien** points out that at present the most accepted explanations of the ætiology of strabismus are the accommodation theory of Donders and the fusion theory of Worth, but neither furnish a satisfactory explanation of all cases of strabismus. The first step in the treatment is to correct, under atropine, any refraction error in both eyes within from a quarter to three quarters of a dioptre of the full correction. The less the error the nearer should the prescription call for the full correction. This should be constantly worn. Children are never too young to wear glasses when they are indicated. The proper correction of the refractive errors in a surprisingly large number of cases of both convergent and divergent squint will be all that is necessary to effect a permanent, complete cure. When this fails recourse may be had to other agents, which in order of importance are (1) instillation of atropine into the fixing eye; (2) occlusion of the

fixing eye; (3) training the fusion sense and operation. The objects of treatment are to arrest the diminution of and bring back the vision to the squinting eye and restore the visual axes to normal. In cases where simpler remedies fail operation is indicated, and the one giving the best results is advancement with or without tenotomy of the opposing muscle. Very high degrees of squint require tenotomy. J. Allan.

The small type of school Bibles (*'Med. Officer,'* 1914, xi, *p.* 20).—**Lydia Towers** mentions that although much has been done within recent years to improve the type employed for text-books in schools and to adapt it to the varying ages, the school Bible seems so far to have escaped attention. She makes the following definite recommendations for consideration: (1) The total abolition of books for the teaching of reading amongst school-children under six years of age, and the substitution of black-boards, wall-charts, etc.; (2) the adoption of the standard of the British Association as regards all new books; (3) the substitution of books conforming to this standard for old ones as quickly as practicable; (4) the prevention of needle-work or any work requiring eye strain under eight years of age; (5) the discouragement of very fine needlework in school. J. Allan.

Surgery.

Surgery of the thymus gland: thymectomy (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 89).—**C. A. Parker** gives an account of a case in which he performed thymectomy, and discusses the anatomical, physiological and pathological aspects of the thymus gland. Many sudden deaths in infants have been caused by an enlarged thymus producing obstruction of the trachea. Frequently this is the sole factor responsible for the compression, but at times enlarged tracheo-bronchial glands or spasm of the glottis are contributing factors in producing the fatal result. Compression of the trachea is shown at autopsy by the presence of a flattened trachea associated with the enlarged thymus, and is revealed *intra vitam* by the bronchoscope showing the narrowed lumen of the organ, the symptoms referable to which are completely relieved by thymectomy. The diminished calibre has also been demonstrated by intubation, a long tube being necessary to keep the trachea open. Two general types of cases occur, the continuous type in which the symptoms usually date from birth or soon after, permanent dyspnœa being usually present, and the intermittent type, usually of later development, in which there are longer or shorter intervals free from symptoms. The three most important symptoms in either type are permanent dyspnœa, recurring suffocative attacks and stridor. All three frequently occur together, when their presence is an imperative indication for immediate operation. The presence of either of the first two also calls for surgical interference, but stridor alone is not an indication for thymectomy. An enlarged thymus may cause an arching forward of the manubrium sterni, or the presence of a soft tumour in the suprasternal notch during expiration (Rehn's sign). Percussion of an hypertrophied gland is difficult, but may show an increase of the normal triangular dulness, the base of which extends from the right sterno-clavicular joint to 6 mm. beyond the sternum on the left, the apex being at the level of the second rib. The position of the apex may vary as much as an interspace according as the neck is flexed or extended (Bogg's sign). The X rays may also aid in

diagnosis. The treatment is essentially surgical, and thymectomy is best performed by Veau's operation. An incision 4 to 5 cm. long is made in the middle line of the neck terminating just below the upper border of the sternum and extending to the deep fascia, which is cut through, exposing the sterno-thyroid muscles. These are separated, and in the lower part of the wound the upper portion of the thymus is seen through a thin hernial sac. The capsule is then lifted up and incised, when the gland projects and can be withdrawn. It may then be tied off at its more fixed position near the sterno-clavicular junction, where it is joined by the nutritive branches of the internal mammary arteries. The wound is closed with deep stitches of catgut and superficial sutures. The operation appears not to be fraught with any untoward metabolic disturbances, probably owing to the fact that the gland is never completely removed, and that the remaining portion quickly reproduces the tissues of the organ. It may also be in man, as in the lower animals, that after a certain period of growth its function is taken up by other organs, as the thyroid and spleen. The author gives a detailed analysis of all the recorded cases up to date—fifty in all. Of these, seventeen died; four deaths followed a complicating tracheotomy, and one an unclosed wound with drainage and infection; four were due to infection from septic tracheo-bronchial glands. In one there was a preliminary bronchoscopy, and in another there had been several unsuccessful attempts at tubage immediately preceding the operation. In three cases with incomplete histories the operator expressly states that death was not due to the operation itself. One was a severe case of Little's disease, and in two cases death occurred several weeks after the operation from causes remote, if not entirely separate from the operative procedure. In no case was the operation immediately fatal. T. R. Whipham.

Multiple myelomata in a boy, aged 5 years (*'Rev. Soc. Méd. Arg.,'* 1913, xxi, *p.* 744).—**P. E. de Elizalde** and **J. Llambias.**—The disease known as multiple myelomata is characterised by the presence of tumours confined to the skeleton, especially the ribs, vertebral column and skull, accompanied by general phenomena of varying importance in different cases, and often by the presence of Bence Jones' substance in the urine. The disease is rare even in adults, and the present case is the first reported in a child. The patient was admitted to hospital with flaccid paraplegia, the first symptoms of which had developed a month previously, and died about six weeks after admission. The necropsy showed myelomata of the ribs, dorsal vertebræ, right orbit and suprarenal. The tumours were mainly composed of lymphoid cells. J. D. Rolleston.

Hydatid of the brain (*'Austral. Med. Journ.,'* 1914, iii, *p.* 1387).—**T. F. Ryan** describes a case of this disease in a child, aged 6½ years. The cyst occupied a large part of the left cerebral hemisphere. Operation removed the cyst, and all the symptoms disappeared.

F. R. B. Atkinson.

Cisterna-sinus drainage for hydrocephalus (*'Arch. of Pediat.,'* 1913, xxx, *p.* 670).—**I. S. Haynes.**—A child, aged 13 months, was successfully operated on for this disease by the author's method, published in the 'Annals of Surgery,' April, 1913. F. R. B. Atkinson.

Reviews.

THE FÆCES OF CHILDREN AND ADULTS. By P. J. CAMMIDGE, M.D. Bristol: John Wright & Sons, Ltd., 1914. Pp. 516, with 13 full-page Plates, 7 of which are coloured, and 96 Illustrations in the text. Price 17s. 6d. net.

DR. CAMMIDGE tells us in the preface that it was originally intended that he should prepare a translation of Hecht's 'Die Fæces des Säuglings und des Kindes,' but that on consideration it was thought that a book of wider scope dealing with the fæces of both adults and children would be more generally useful. In writing such a book the author acknowledges his indebtedness to Hecht's and Schmidt and Strasburger's works, but much of it is obviously original and the outcome of his own researches, which are now so widely known. The result is a book of great value and practical utility, as it deals with a subject which is not sufficiently studied, and about which little, as a rule, is known.

The opening chapters deal with the general characters of the fæces, their macroscopic and microscopical examination, and the animal parasites which are found in them. The illustrations in this portion of the book are admirable and greatly enhance the value of the text.

The chapters on bacteriology and chemical analysis are full of useful information, and contain details of the cultural and staining methods for bacteria and of chemical tests for the various abnormal constituents of the fæces. The section on fats in connection with pancreatic and other diseases must be specially mentioned and deserves careful perusal. An account of the different forms of calculi and concretions which are met with in the fæces includes a short but interesting section on intestinal sand, a condition seldom recognised in this country, but more common, or at all events more commonly reported, on the Continent. This brings what may be termed the first half of the work to a close.

The second part commences with a consideration of the diagnostic value of examinations of the fæces. The characters of the stools produced by different forms of diet and the changes which occur in them as the result of various intestinal disorders are dealt with in a very lucid manner. There are also important sections on the fæces in cases of pancreatic disease and of jaundice. Then follows a chapter on indications for treatment, which includes a consideration of diet and the various constituents of food, cooking, general hygiene, etc., followed by a detailed description of the dietetic treatment suitable for cases of gastric, intestinal, pancreatic and hepatic derangement. In cases of gastric ulcer the author evidently favours feeding by the mouth earlier than in the strict von Leube method, but not so soon as Lenhartz advises. From the section on drugs useful hints may be gleaned as regards purgatives and intestinal antiseptics. The book ends with a long appendix of diet schemes, which is supplementary to the text, and there is a full index.

The book should prove invaluable not only to the clinical pathologist, but also to the pure clinician, containing, as it does, a wealth of information on a subject to which, as we have said, too little attention is as a rule paid. It is well printed on art paper and the illustrations are excellent. A noteworthy feature is the inclusion of a bibliography at the end of each chapter.

T. R. W.

Guide to the Microscopic Examination of the Eye. By Prof. R. Greeff, Director of the University Ophthalmic Clinique in the Royal Charity Hospital, Berlin; with the co-operation of Prof. Stock (Freiburg), and Prof. Wintersteiner (Vienna). Translated from the Third German Edition by Hugh Walker, M.A., M.B., C.M., Ophthalmic Surgeon to the Victoria Infirmary, Glasgow. London: The Ophthalmoscope Press, Thayer Street, W. Price 7s. 6d. net.

There can be no doubt that in this country the microscopic examination of the eye is a branch of ophthalmology somewhat neglected by the ophthalmic surgeon. It would be to his advantage to embrace every opportunity of becoming acquainted with the finer microscopic structure of the eye and thus be able to demonstrate the necessity for the operative treatment he may have undertaken. It cannot be expected that he will be so proficient in staining methods as the expert pathologist, but he can with practice do the work sufficiently well for his own requirements. The chief aim of this book is to show that a satisfactory examination of the eye can be made without elaborate instruments or numerous reagents.

After describing the necessary minimum equipment for such work the author discusses methods of fixing and hardening, imbedding processes, staining and mounting of specimens. He does not believe in following one particular method in this connection, and he, therefore, affords the reader ample scope for choice, although it would seem that one or two newer methods have been overlooked. In the second part of the book the staining, etc., of special parts of the eye, such as the cornea, iris, retina, etc., is examined. An appendix is devoted to the examination of the secretions and bacteria of the eye, including trachoma corpuscles.

We have read the book with pleasure and profit, and we can testify to the able manner in which the various points have been discussed. We have no hesitation in saying that the book should find a place in the library of anyone who wishes to take an intelligent and scientific interest in ophthalmic work. J. A.

Sexual Ethics: A Study of Borderland Questions. By Robert Michels, Professor of Political Economy and Statistics in the University of Basle, and Honorary Professor in the Faculty of Law in the University of Turin. London and Felling-on-Tyne: The Walter Scott Publishing Company, Ltd., 1914. Price 6s. net.

"All sexual relationships are subordinated to Kant's moral law, in accordance with which no one must be considered merely as the means to the end of another" (p. 41).

This sentence may be regarded as the keynote of this work, which forms a valuable contribution to the study of the sexual question.

The book, which is a recent addition to the well-known Contemporary Science Series edited by Mr. Havelock Ellis, is divided into four main parts: (1) General borderland problems of the erotic life. (2) Borderland problems of the extra-conjugal erotic life. (3) Preconjugal borderland problems. (4) Borderland problems of the conjugal sexual life. There are two preliminary chapters, one of which contains remarks on erotic literature and terminology, from which we may quote the following:

"Eighty per cent. of the literary products of the sexual order which are exposed for sale might be committed to the flames without hesitation, and

without giving the watch-dogs of democracy the right to accuse of high treason against art those who destroy such garbage."

In the other preliminary chapter the writer discusses the question as to whether sexual enlightenment should be given in the school by the teachers or medical men or in the home, and decides in favour of the latter. School-teachers, he thinks, lack the necessary knowledge, and are unable to give unprejudiced instructions, while doctors are utterly devoid of the teaching faculty, are too materialistic, and only endeavour to inculcate a fear of syphilis and other results of sexual indulgence.

He concludes that sexual enlightenment should be gradual and not effected suddenly at puberty. It should be essentially negative in character, all fables, false statements, and needless mystery being avoided.

Of special interest in the body of the work are the chapters on the prostitute as the "old maid" of the proletariat, the value and limits of chastity, and the physical basis of love.

Though by no means a blind adherent of neo-malthusianism, the writer is of opinion that sexual love is justified as an end in itself, and that consciously regulated sexual intercourse possesses complete ethical justification.

The work is eminently readable, and contains, in addition to the writer's personal observations, numerous quotations from scientific and belletristic literature. J. D. R.

Report of the Proceedings of the English-Speaking Conference on Infant Mortality. London: National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. Pp. 456. Price 3s. net.

The Conference, whose proceedings are published in this volume, met in London in August, 1913, under the Presidency of the President of the Local Government Board. The 'Proceedings,' containing the addresses, papers and discussions of the Conference, show how well the Conference was organised. For evidence is given of the subject of infant mortality having been considered and discussed from almost every standpoint; and sociological and sanitary views are brought forward as well as matters of more purely medical interest.

In the Presidential address attention was paid to the influence on infant mortality of the employment of mothers of young families. Although many speakers touched upon this subject and deplored the results of such employment, we regret that no paper was read dealing fully with this question. To our mind it is a matter upon which the formation of a sounder public opinion and a more delicate national conscience is very essential at the present time. Doubtless on some future occasion this subject will be more fully discussed.

The volume is one which is very well worth possessing, for a great deal of useful information is to be found in it. The index is adequate, but perhaps in a volume of such a variety of contents might be usefully made still more detailed.

The 'Proceedings' can be obtained from the office of the Association, 4, Tavistock Square, W.C. R. M.